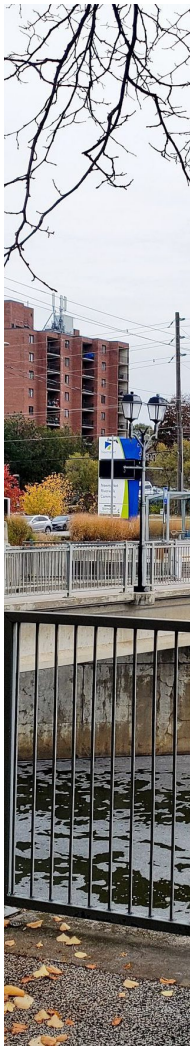
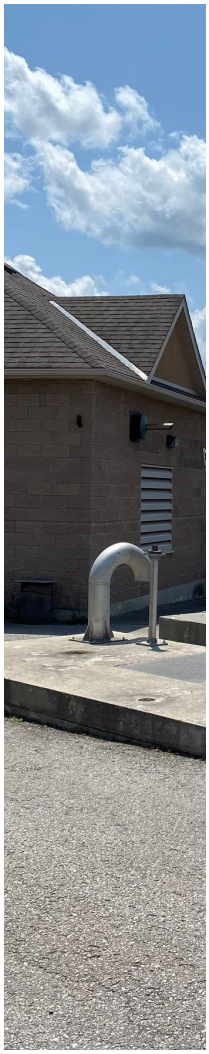
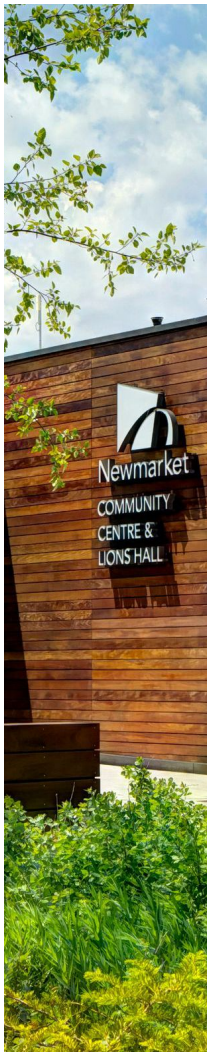
Newmarket

Corporate Asset Management Plans

2025



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Acknowledgements

Land Acknowledgement

We acknowledge that the Town of Newmarket is located on the traditional territories of the Wendat, Haudeno-saunee, and the Anishinaabe peoples and the treaty land of the Williams Treaties First Nations and other indigenous peoples whose presence here continues to this day.

We thank them for sharing this land with us. We also acknowledge the Chippewas of Georgina Island First Nation as our close neighbours and friends, and we work to ensure a cooperative and respectful relationship.

Supporting Departments

- Development & Infrastructure Services Commission
- Public Works Services - Operations
- Public Works Services - Water/Wastewater
- Engineering Services
- Planning Services
- Climate, Environment & Sustainability
- Community Services Commission
- Parks And Property Services
- Facility Services
- Recreation & Culture
- Corporate Services Commission
- Financial Services
- Financial Services - Corporate Asset Management
- Information Technology Services - Data Analytics And Geospatial Services
- Senior Leadership Team
- Asset Management Steering Committee
- Infrastructure Solutions Inc.

Council (2022 - 2026)

Mayor John Taylor
Regional Councilor and Deputy Mayor Tom Vegh
Ward 1: Grace Simon
Ward 2: Victor Woodhouse
Ward 3: Jane Twinney
Ward 4: Trevor Morrison
Ward 5: Bob Kwapis
Ward 6: Kelly Broome
Ward 7: Christina Bisanz

Executive Summary

Introduction

The Vision

The Asset Management Plan aligns with the Town of Newmarket's vision and mission of Well Beyond the Ordinary and Making Newmarket Even Better. Through the implementation of AM practices, staff will continuously improve how we manage our infrastructure assets throughout their lifecycle.

The Town seeks to establish best practices in asset management through a strategy that links disciplines and departments, integrates data, and coordinates decision-making so that the Town will be able to invest wisely and make informed choices about how to maintain assets and deliver services.

Why a Plan?

AM plans are part of Newmarket's long term strategic planning and financial management. AM Plans guide Newmarket's processes to reflect sound and accountable governance of its municipal infrastructure. The Plans provide an understanding of current and future asset needs, condition and costs, service levels, risks, and future growth planning and funding. The AM Plans are a living document to be reviewed and updated as the environment changes. This includes new standards, adding new data, updates that demonstrate continuous improvement, changing demographics and trends, provincial policy, and corporate documents and studies.

Update Cycle

Asset management is a continuous improvement process that requires regular updates to ensure the plan remains effective, accurate, and aligned with the Town's goals and regulatory requirements. Newmarket is committed to maintaining transparency and accountability through routine reporting and formal plan reviews. The following outlines the Town's update cycle:

- Annual updates to Council and the public.
- Updated Asset Management Plan at least every five years, in accordance with Ontario Regulation 588/17, with formal approval and endorsement by Town Council.

Key Takeaways

Adoption of the 2025 Asset Management (AM) Plan means the Town is compliant with Ontario Regulation 588/17 after a series of milestones dating back to 2019. Going forward, the AM Plans will inform Town processes for financial planning and annual budgeting.

Asset Management Plans Establish Targets for Levels of Service

The Town seeks to maximize the use of available funds to benefit residents and the community, maintain service levels, and minimize risk. The AM Plans focus on the capital renewal of existing assets by analyzing financial plans and the future projected condition of Town assets. On this basis, 10-year forecasts show the level of service that would be provided. These become targets which are reported annually and used as a guide for recommended annual budgets. The targets align to existing Town practices for tax-supported reserve contributions and rate-supported financial plans. The budget process is the start of refinements to these asset replacement costs with additional considerations for detailed cost estimates, resource impacts, and an assessment of staff capacity to delivery. The process of setting targets every 5 years and conducting annual reviews going forward is included in O.Reg. 588/17. The key targets set in the 2025 AM Plans are as follows:

AM Plans & Targets	Capital Funding ($ / Year, 2024 dollars)		Percent of Existing Assets Not Due for Replacement		Comments
	Current (2025)	Proposed (2034)	Current (2025)	Proposed (2034)	
Tax-Supported Assets					
Roads	$3.04M	$5.66M	98%	90%	Slight decline in service levels.
Bridges	$1.10M	$1.10M	100%	100%	Funding aligned to contracted engineering inspection recommendations.
Parks	$1.35M	$2.48M	83%	74%	Data limitations, monitor for future updates.
Facilities	$5.29M	$8.48M	87%	80%	Slight decline in service levels.
Rate-Supported Assets					
Water	$3.35M	$6.85M	97%	93%	Aligned to financial plans and Reserve Fund Review.
Wastewater	$4.35M	$8.25M	93%	89%	
Stormwater	$7.96M	$13.05M	99%	94%	

Table 1 - Key Targets Set in 2025 AM Plans for Existing Assets as of Dec. 2023

Funding Shortfalls Over the Next 10 Years Were Identified

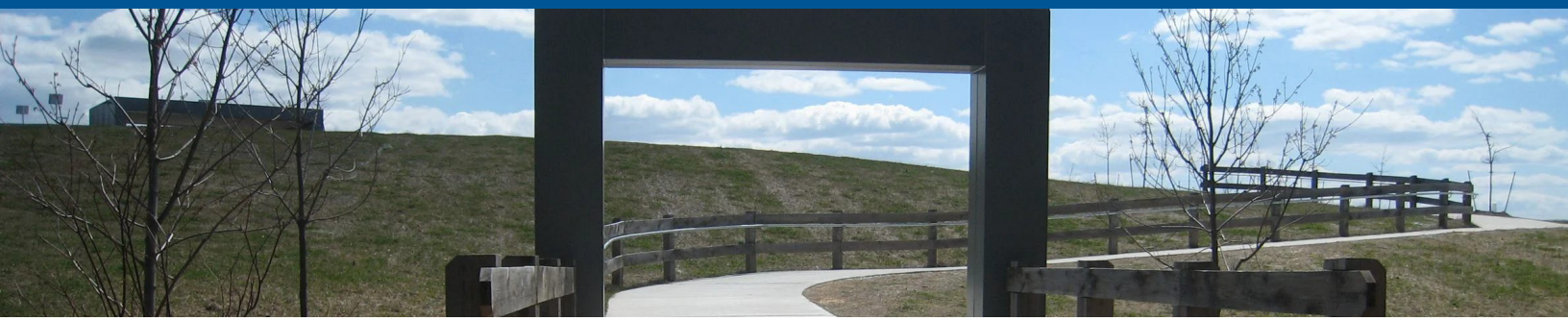
The AM Plans balance levels of service, risk, and affordability. Financial analysis shows there are increasing financial needs to maintain assets, and the proposed levels of service recognize this by increasing funding with a long-term financial strategy that achieves balance. In the meantime, the Town will experience funding shortfalls associated with natural aging of assets. The capital shortfall represents the theoretical unfunded capital cost to address the full lifecycle needs of existing assets over the next 10 years. It is a one-time cost between 2025 and 2034. Other factors like the Town's ability to deliver capacity are assessed under the annual budget process. The 10-year shortfall totals $232 million. The Town is also projecting a future growth-related funding shortfall of $26 million caused in-part by Bill 23, a provincial legislation impacting municipal development charges.

It is understood that an infrastructure funding gap is common among municipalities. Studies have shown Canadian municipalities carry a disproportionate burden for infrastructure investments, relative to the municipal share of all governmental funding seen in Canada. Based on Statistics Canada benchmarking, the Town is in a better than average position for its infrastructure assets. The Town is committed to optimizing the use of limited funds to provide strong services to the community while continuing to seek additional funding.

Funding shortfalls explain why several asset types are experiencing declines in level of service, despite historical improvements and future commitments to increase funding. Based on current information, the Town forecasts achieving sustainable funding approximately in the 2040s. To bridge this gap, the Town has developed a risk management strategy (detailed in the Plans). The Town will continue to seek additional funding opportunities. The outlook may also be refined through data collection and condition assessments. Reporting the 10-year funding shortfall is part of O.Reg. 588/17 and helps advocate for additional funding from other levels of government to support municipal infrastructure.

Asset Management Plans Will Be Used Annually During the Budget

The Plans include 10 years of forecasted reserve contribution targets. These will be the baseline for recommended multi-year capital plans and capital budgets to 2034. The capital planning process will provide further refinements and the means to achieve the levels of service depicted in the plans. Once complete, these capital plans will be recommended for adoption, subject to the budget process. The Town can deviate from the proposed budget as needed, and any impacts to asset management will be monitored.



Asset Portfolio Summary

Plan Outline

Asset management plans guide Newmarket's processes to reflect sound and accountable governance of its municipal infrastructure. They provide strategic plans for leaders, practical tools for service areas, and a platform for public discourse about infrastructure, services, and affordability.

The 2025 Asset Management Plans (7 total) include Town-owned roads, bridges, water, wastewater, stormwater, parks, and facility assets. Each plan includes five chapters that build a holistic understanding of the Town's assets and their future:

- **Know Your Assets:** Establishes a baseline of what the Town owns including asset condition, and replacement cost to inform analysis, reporting, and decisions making.
- **Manage Service Delivery:** Provides visibility to levels of service, risk, and activities that support services delivery, using a framework for managing asset-related services holistically.
- **Future Ready:** Highlights ongoing and future trends of growth and climate change that impact the Town's assets and services.
- **Financial Context**: Documents the Town's current financial position and plans, and uses financial modelling to forecast different service options.
- **Proposed Levels of Service:** Provides proposed levels of service, how it can be achieved and costs associated. The Proposed Levels of Service become the basis for future recommended budgets and are monitored going forward.

The key findings for all assets have been summarized within the Executive Summary.

Know Your Assets

What was once a small but thriving Town, today Newmarket is the owner of thousands of assets. These assets were historically constructed to provide services to the community. Understanding future replacement budgets for Town assets starts with quantifying the asset inventory.

What do We Own?

The number of assets owned by the Town reflects the full scope of what the Town is responsible for managing. These assets require regular inspection, operation, maintenance, and eventual replacement through planned capital reinvestment.

Roads: 259 km

Bridges & Culverts: 31

Watermains: 315 km

Wastewater Sewers: 284 km

Stormwater Sewers: 318 km

Parks: 59 park locations, 47 km of trails

Facilities: 36

Figure 1 - Scope of Assets in Asset Management Plans

What is the Value?

Replacement value is the current market cost to replace existing assets assuming similar service levels for these assets in the future. Replacement unit costs represent the 2024 total cost of replacing each asset the Town owns and does not consider project delivery, maintenance, growth, climate change, service enhancements, or other cost factors.

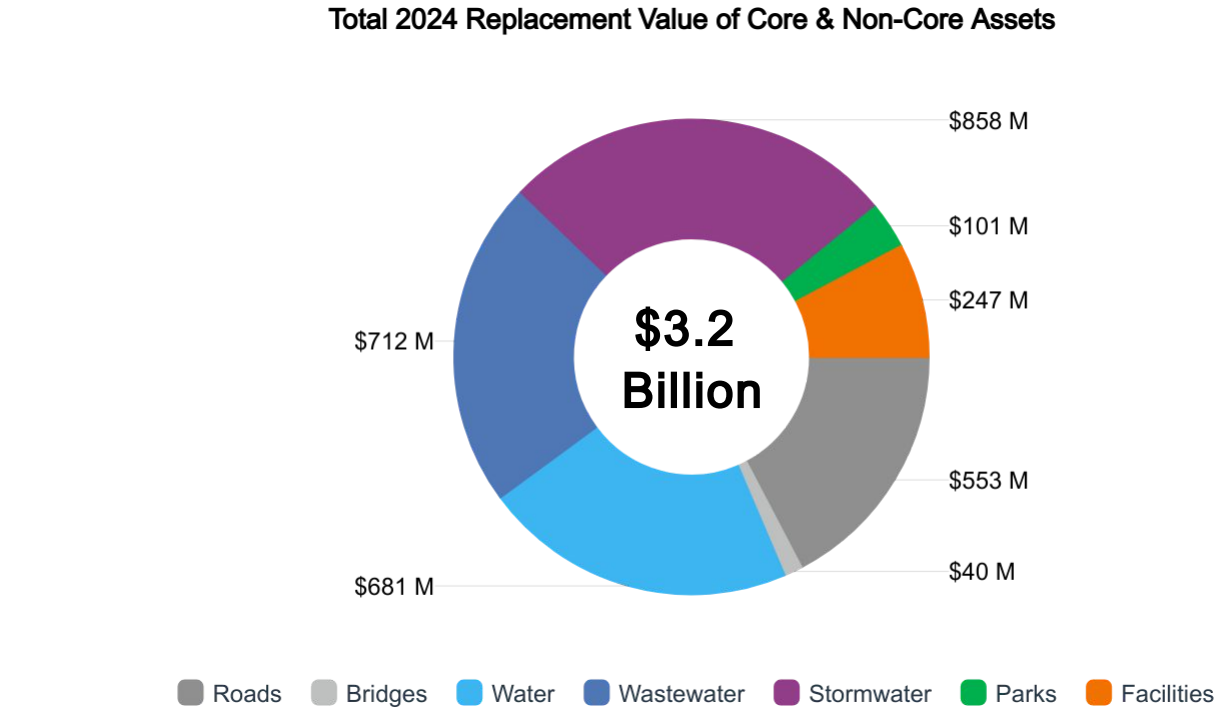


Figure 2 - Total Replacement Value of Assets as of Dec. 2023

How Old Are Our Assets?

Brand new assets and aging assets vary in their ability to provide services, their maintenance need, and their potential lifecycle needs. Understanding the age of assets allows the Town to plan for the future.

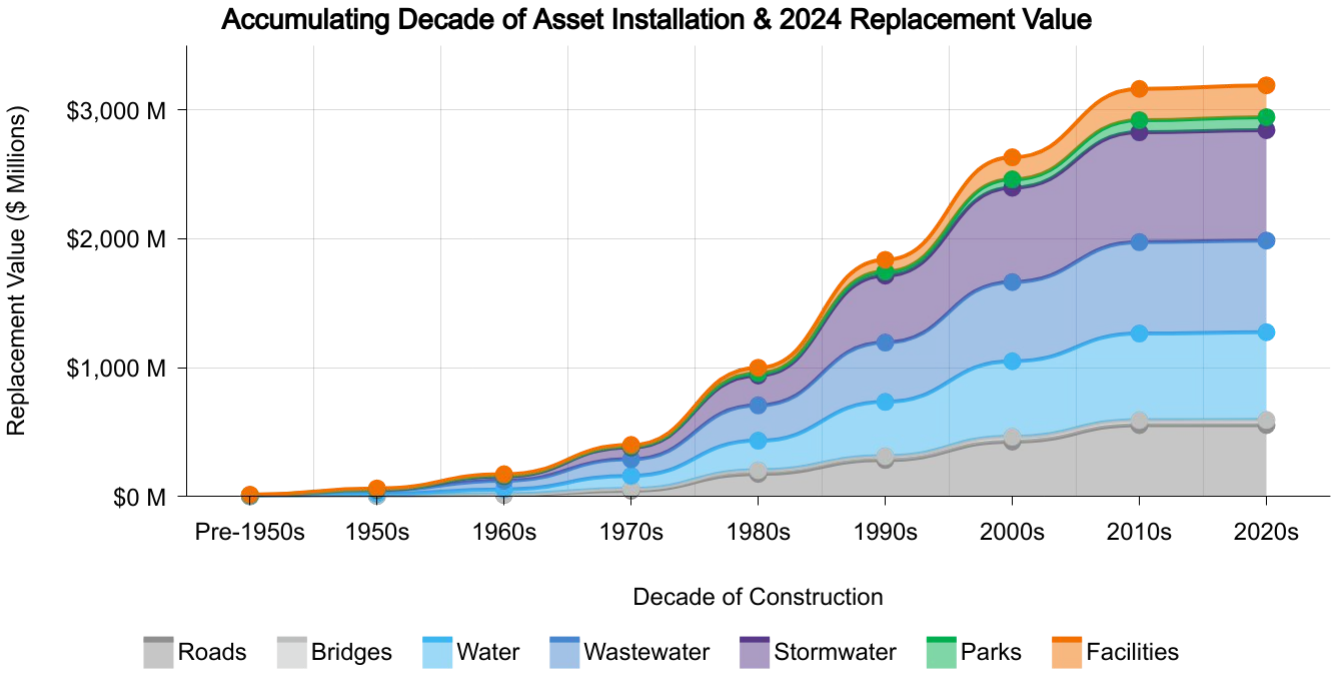


Figure 3 - Accumulating Asset Value by Decade of Construction as of Dec. 2023

What Condition Are Our Assets In?

All assets have a finite useful life. As assets provide services, operate, and age, they will naturally deteriorate and the need for reinvestment will arise (signified by a reduced condition rating). The age and investment need of assets are benchmarked by their condition, which can then support other decisions such as levels of service.

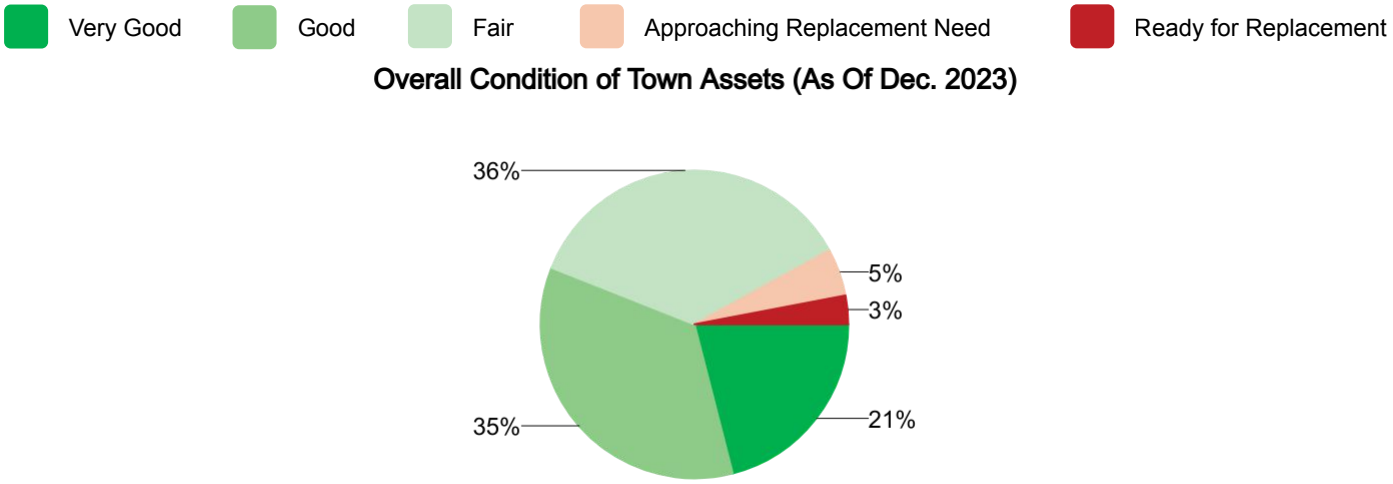


Figure 4 - Overall Condition of Town Assets as of Dec. 2023

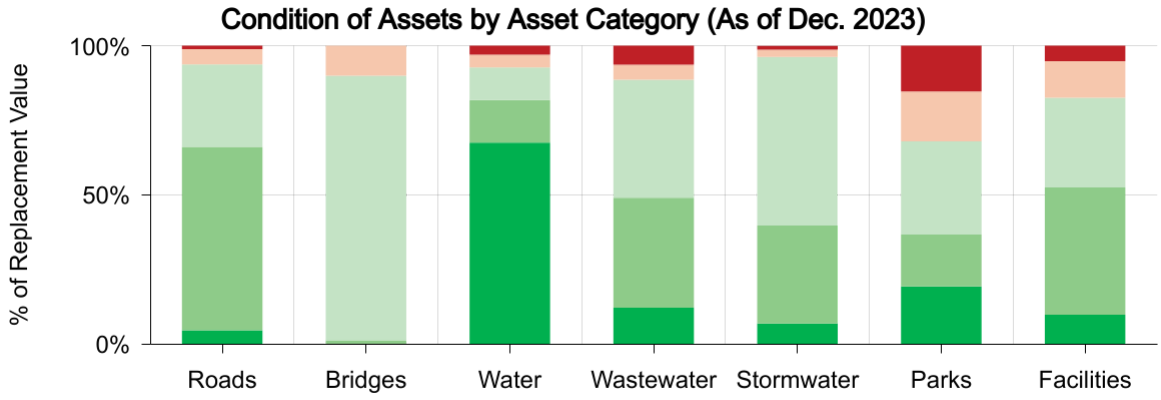


Figure 5 - Overall Condition of Town Assets by Asset Category as of Dec. 2023

Condition Assessments

A good asset management practice requires comprehensive and reliable information on the current condition of the infrastructure. Without this information, financial and capital plans include uncertainty. Condition data is derived from field observations by qualified technologists who provide information about the remaining useful life of the assets. When this information is unavailable, age is used as a proxy with a lower level of confidence

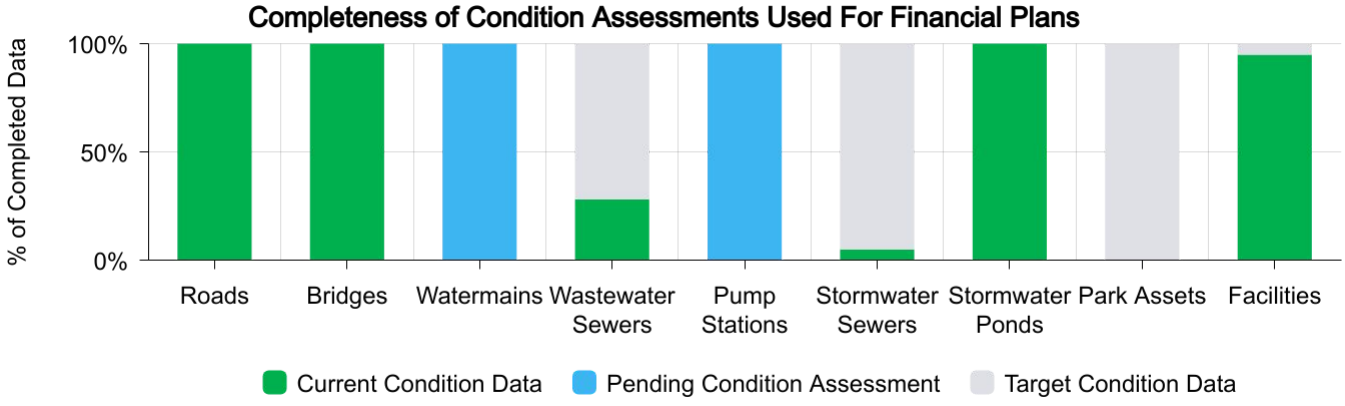


Figure 6 - Completeness of Condition Assessments used for Financial Plans

Future Ready

Ongoing and future trends will impact the way the Town delivers its services and manages its assets. Using planning to maintain a future outlook allows for a balance between maintaining present services while managing growth.

Growth

Newmarket is poised for growth. The Town of Newmarket is expected to grow from its current population of approximately 90,700 residents to a future population of 118,500 by 2051 according to provincial and regional plans. To support this population, more assets and new types of assets may be required to provide asset-related services and to maintain service levels. The asset management plans reflect planning efforts to coordinate assets and population growth in alignment with the 2019-2028 Development Charges Background Study.

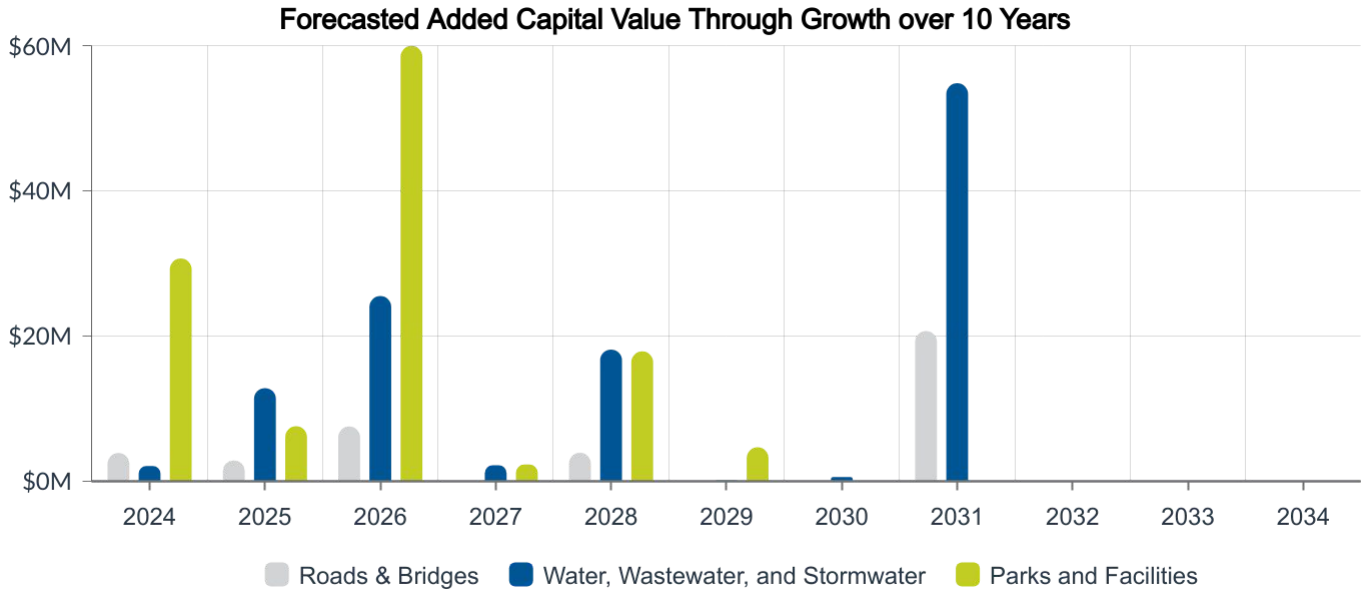


Figure 7 - Forecasted Added Capital Value Through Growth over 10 Years

Climate Change

The Town's asset management plans consider the impacts of climate change. As part of the Town's efforts to prepare for the impacts of climate change, the Town engaged the Ontario Climate Consortium (OCC) to conduct a corporate-wide resilience assessment of Town-owned infrastructure. Flood risk has been selected as the focus of this assessment to leverage existing flooding-related data and develop a prototype of an approach that can be replicated in the future for other climate-related risks. These preliminary results will be refined in future climate-related studies.

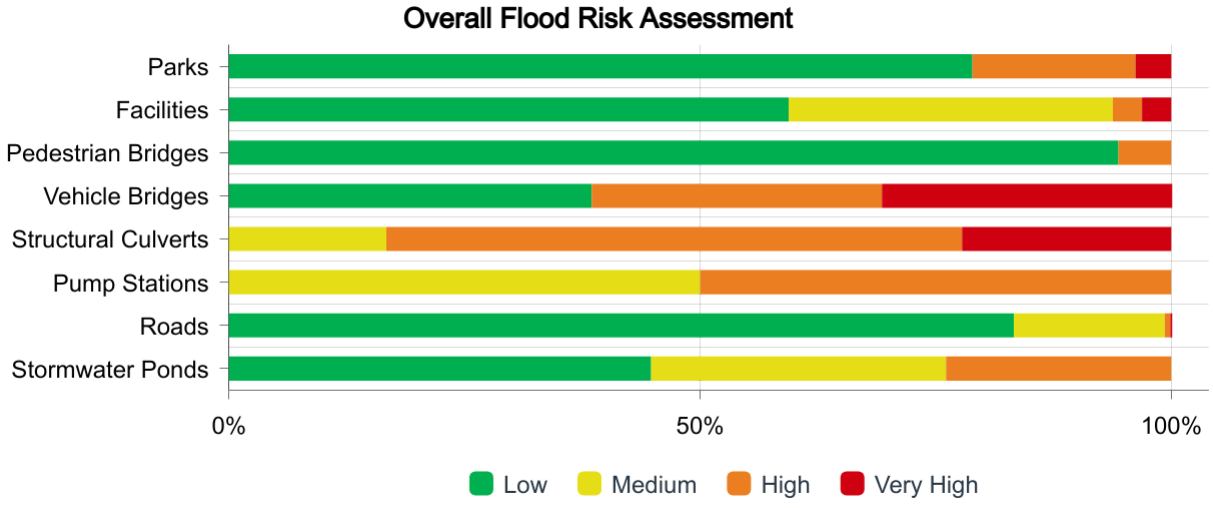


Figure 8 - Overall Flood Risk Assessment

Financial Context

The sustainability of Town infrastructure depends on effective management and ensuring the optimal use of available funds. The Town of Newmarket has developed a financial strategy to evaluate the relationship between current investment levels, service outcomes and risk. The financing strategy strengthens the budget process by reinforcing a long-term perspective of service levels.

Future Reserve Contributions

The Town's reserve contributions are supported by long-term financial planning. These projections will be reviewed each year through internal processes and are subject to Council-approved budgets. The forecasted reserve contributions are based on the current population, forecasted revenue projections, and expected growth.

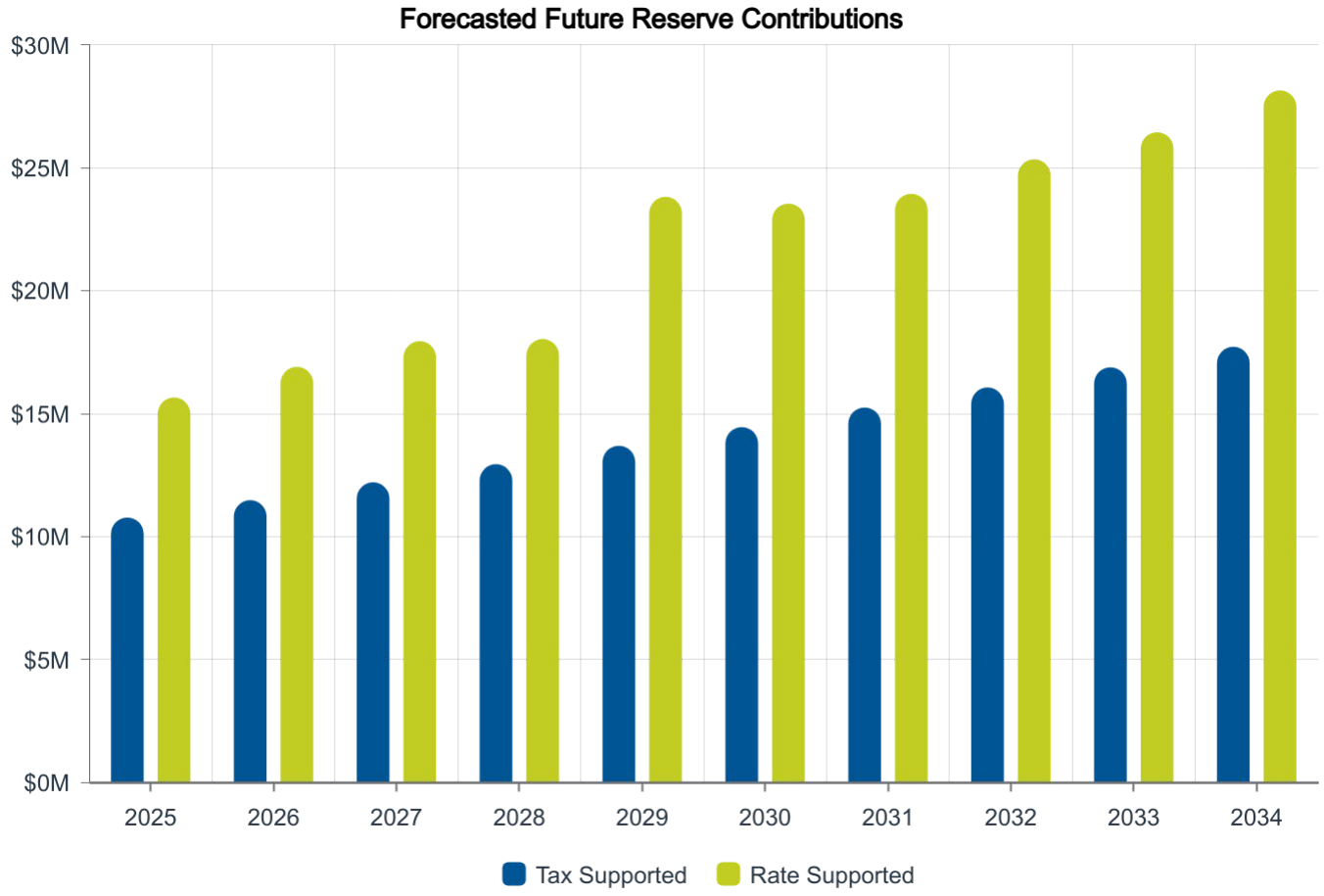


Figure 9 - Forecasted Future Reserve Contributions over 10 Years

Proposed Levels of Service

Proposed Levels of Service forecasts outline the projected service levels the Town will deliver through its assets using a financial strategy in alignment with O.Reg. 588/17. The Proposed Levels of Service forms the basis for 10-year forecasting, annual budget recommendations, risk management, and performance monitoring. Proposed levels of service will be achieved through:

- capital renewals and replacements
- operations and maintenance
- growth

Levels of Service Achieved Through Capital Renewals and Replacements

For capital renewals and replacements, the Town proposes to increase the capital funding of asset replacements in recognition of the prevailing trends of aging assets. This is achieved through alignment with the Town's Fiscal Strategy and the Reserve Fund Review which identifies a path to achieving sustainable asset funding levels through a long-term strategy.

The proposal shows some potential decrease in service levels in the short term at a rate that is acceptable when balanced against affordability concerns and risk assessments. The Fiscal Strategy and Reserve Fund Review demonstrates that service levels can be achieved over a longer term. The proposal incorporates financial strategies including rate-supported financial plans, increased tax-supported contributions to asset management funds, reserve management and investments, assessment growth, use of provincial and federal grants, interfund-borrowing, annual budgeting, and where allowable a role for external debt funding of capital projects. Proposed levels of service address the capital cost of funding existing assets. Other factors like capital delivery capacity are assessed during the annual budget process.

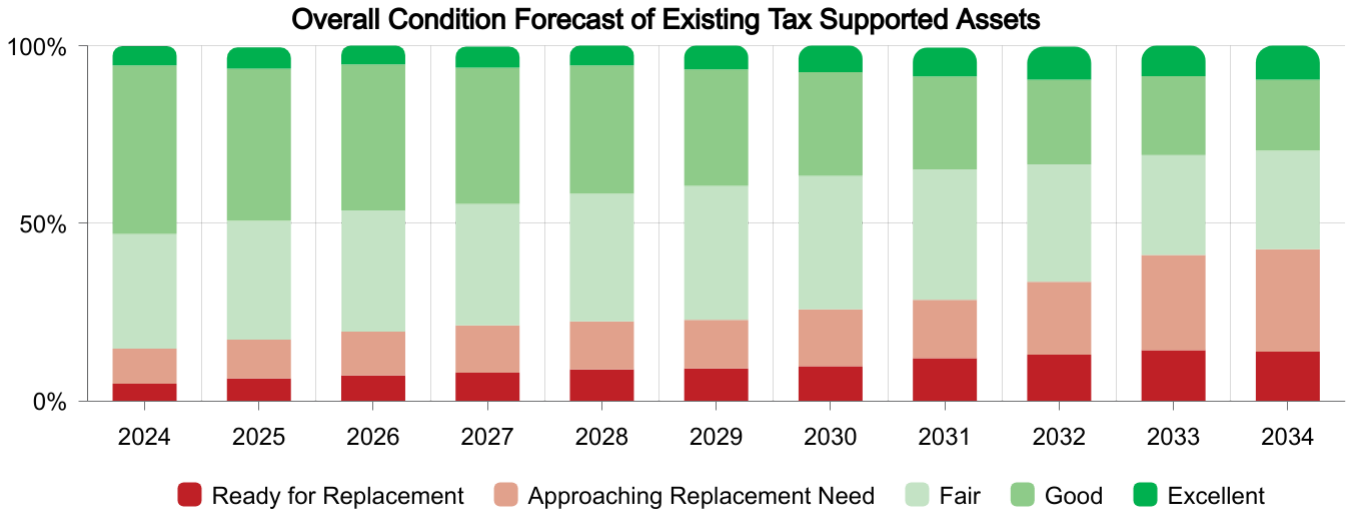


Figure 10 - Overall Condition Forecast of Existing Tax Supported Assets

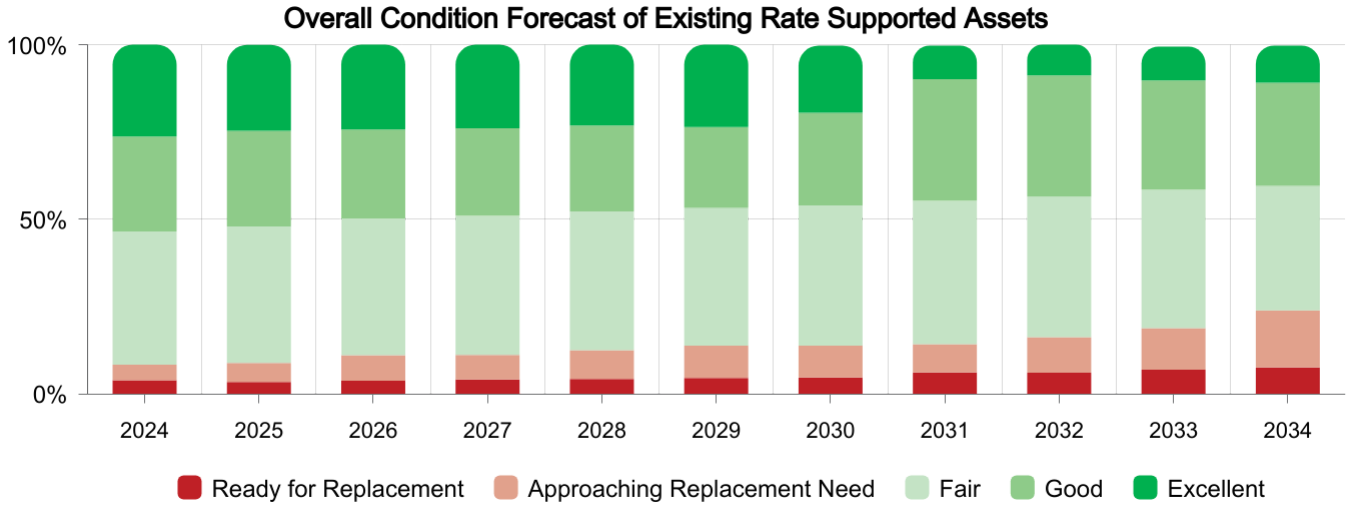


Figure 11 - Overall Condition Forecast of Existing Rate Supported Assets

Levels of Service Achieved Through Operations and Maintenance

The Town is not currently proposing any changes or enhancements to lifecycle activities through AM. This is because:

- In accordance with the Municipal Act and Town municipal funding practices, the operating budget is considered a sustainable source of funding operations and maintenance through rate and tax-supported annual budgets.
- The current service levels are affordable and appropriate as they are already experienced by the community.
- Maintaining current service levels allows the Town to acquire asset expansions associated with population growth using assessment growth, without further financial impacts. This is part of the Town's Fiscal Strategy.
- Based on current information, the assessed risk of the condition of the assets and the funding of renewals is within the Town's operational capacity to mitigate potential risks.

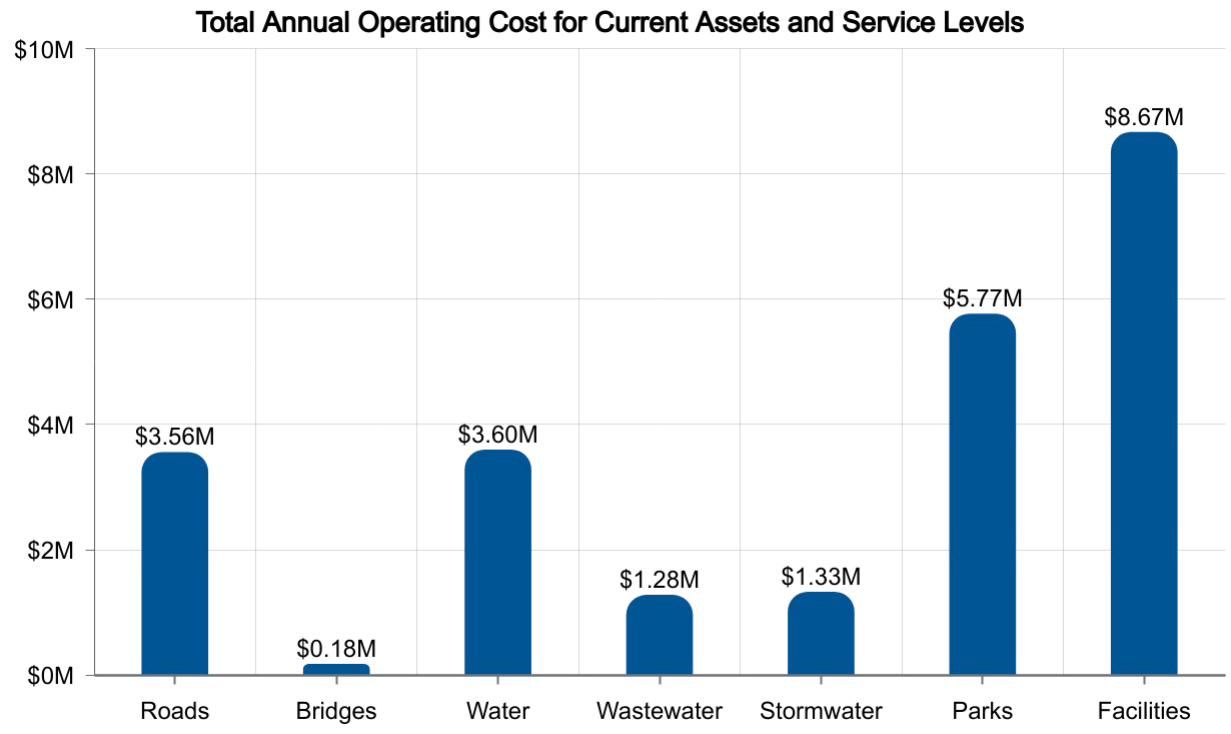


Figure 12 - Total Annual Operating Costs for Current Assets and Service Levels

Levels of Service Achieved Through Growth

The Town is expected to grow from its current (2021) population of approximately 90,700 residents to a future population of 118,500 by 2051. To support this growth, more assets may be required to provide services. Each AM Plan includes a forecast of growth assets to maintain service levels. Once acquired, growth assets provide service while adding costs for operations, maintenance, and eventual replacements. The Town's strategy for funding growth includes the capital use of Development Charges, followed by assessment growth to operate the assets to the extent possible. The forecast of growth was done on a preliminary basis with available information – estimates will be refined annually through the budget process and through engineering designs.

Risk

There are risk associated with the natural aging of infrastructure and funding shortfalls, but also opportunities. The 2025 AM Plans show the Town will continue to provide strong asset-related services, but there will be changes in the future due to aging infrastructure. The Town has considered the corporate risks associated with the Proposed Levels of Service and adopted mitigation strategies. Detailed further in individual AM plans, the Town's overall risk management strategy is shown below. The Town will continue to monitor for risks while minimizing impacts to residents and optimizing the use of available funds.

Risk of Proposed Level of Service	Mitigation Measures	Residual Risk
Increased operations and maintenance requirements for aging assets.	• Condition assessments & inspections. • Preventive maintenance programs. • Asset preservation techniques. • Implement Enterprise AM processes and digital tools.	Monitor for increasing maintenance costs associated with backlog of capital renewals for future reports.
Service disruptions arising from asset repairs.	• Risk-based prioritizations. • Multi-year capital planning. • Contingency planning. • Coordination with users and among service areas. • Scheduling.	Disruptions could increase as volume of capital work increases, but will be minimized as much as possible.
Customer satisfaction with aging assets.	• Public engagement. • Customer service.	Perceptions may change as assets age but the Town will continue to provide strong services and offset customer impacts where possible.
Construction price inflation outpacing project estimates.	• Multi-year planning. • Procurement strategies. • Value engineering.	Multi-year capital plans would be adjusted as needed. Current financial planning from the Reserve Fund Review indicates the Town can keep pace with inflation using interest on reserves.
Ability to meet growth in demand for asset-related services during changes in legislation.	• Infrastructure planning. • Track and forecast building applications. • Maintain and update Development Charge Studies. • Monitor provincial and federal legislative initiatives.	The Town will continue to plan its infrastructure under a "growth-pays-for-growth" model, but some planned projects could be deferred depending on growth revenues.
Increased staff resource requirements to deliver planned increased in capital spending through projects.	• Workforce planning. • Annual budget process. • Multi-year plans. • Development of strategies for increased capital delivery.	The Town will assess its capacity to deliver capital through the annual budget process and workforce planning.

Table 2 - Risks of Proposed Level of Service, Mitigation Measures and Residual Risk

Financial Summary

Throughout the Proposed Levels of Service process, the Town defined several financial strategies to achieve its proposed levels of service. These included:

- Increasing asset renewal funding through a wide range of reserve management methods focused on larger contributions while balancing risk and affordability.
- Planning asset growth in-line with population growth, and considering development charges and assessment growth as part of asset financial planning.
- Maintaining operations and maintenance funding at current levels to support consistent annual lifecycle activities.
- Integrating asset management with the annual budget process to refine preliminary estimates and recommendations with detailed cost estimates and designs, delivery capacity assessments, and considerations for operational impacts.

When each analysis is combined, the total cost of the asset lifecycle over the next 10 years can be summarized as shown below. Costs are split between existing assets and growth assets. The cumulative capital shortfall represents the difference between the Town's financial strategy and the full cost of maintaining existing service levels in a state of good repair. Operating costs do not fully include the maintenance impacts of aging infrastructure - as the Town's AM capabilities develop, the Town will seek to understand this relationship further.

Tax Supported Existing Assets (As of Dec. 2023)

Financial Impact by Year (2024 Dollars)	Base Operating Costs	Proposed Replacement Capital Spending	Cumulative Capital Shortfall
2025	$18.18M	$10.72M	($38.61 M)
2026	$18.18M	$11.69M	($53.07 M)
2027	$18.18M	$12.28M	($61.39 M)
2028	$18.18M	$13.03M	($78.75 M)
2029	$18.18M	$13.93M	($93.60 M)
2030	$18.18M	$14.61M	($113.17 M)
2031	$18.18M	$15.41M	($124.29 M)
2032	$18.18M	$16.15M	($128.27 M)
2033	$18.18M	$16.99M	($131.22 M)
2034	$18.18M	$17.67M	($143.42 M)

Table 3 - Total Cost of Asset Lifecycle over next 10 Years - Tax Supported Assets

Rate Supported Existing Assets (As of Dec. 2023)

Financial Impact by Year (2024 Dollars)	Base Operating Costs	Proposed Replacement Capital Spending	Cumulative Capital Shortfall
2025	$6.21M	$15.65M	($35.34 M)
2026	$6.21M	$16.90M	($40.07 M)
2027	$6.21M	$17.95M	($48.08 M)
2028	$6.21M	$14.74M	($58.73 M)
2029	$6.21M	$16.42M	($73.67 M)
2030	$6.21M	$31.64M	($83.98 M)
2031	$6.21M	$26.53M	($88.35 M)
2032	$6.21M	$25.34M	($88.77 M)
2033	$6.21M	$26.44M	($93.80 M)
2034	$6.21M	$28.14M	($88.61 M)

Table 4 - Total Cost of Asset Lifecycle over next 10 Years - Rate Supported Assets

Managing Funding Shortfalls

Each stream of service delivery was considered for funding impacts. There were funding shortfalls that could not be addressed, resulting in the Town's proposed levels of service. The capital shortfall represents the theoretical unfunded capital cost to address the full lifecycle needs of existing assets over the next 10 years. It does not include resource impacts of capital delivery, or the operational impact of an infrastructure backlog. It is a one-time cost between 2025 and 2034. The growth shortfall is not attributable to current capital projects but is projected to occur during the 10 year plan based on provincial legislation.

It is understood that an infrastructure funding gap is common among municipalities. Studies have shown Canadian municipalities carry a disproportionate burden for infrastructure investments, relative to the municipal share of all governmental funding seen in Canada. Based on Statistics Canada benchmarking, the Town is in a better than average position for its infrastructure assets. The Town is committed to optimizing the use of limited funds to provide strong services to the community while continuing to seek additional funding.

Total Shortfall Over 10 Years (2025-2034)

Service Delivery	Roads	Bridges	Water	Wastewater	Stormwater	Parks	Facilities	Total
Capital	($81.80 M)	($5.72 M)	($40.14 M)	($48.46 M)	$0	($21.00M)	($34.91 M)	($232.03 M)
Operating	$0	$0	$0	$0	$0	$0	$0	$0
Growth	$0	$0	$0	$0	$0	($26.00 M)	$0	($26.00 M)
Total	($81.80 M)	($5.72 M)	($40.14 M)	($48.46 M)	($0.00 M)	($47.00 M)	($34.91 M)	($258.03 M)

Table 5 - Total Shortfall over 10 Years

Based on the Town's Proposed Levels of Service, the Town will move forward with the adopted financial strategy accepting the shortfall and the associated trade-offs. The Town will continue to seek additional funding opportunities identified in the Fiscal Strategy and will monitor performance for future updates.

Public Access & Input

Asset Management Plans will be made publicly available on the Town's website, and opportunities for input will be provided through the annual budget process and other public engagement initiatives, where appropriate.

Underlying Key Assumptions

The development and implementation of this Asset Management Plan is based on several key assumptions that support its findings and recommendations. These assumptions provide necessary context for interpreting the plan's data, projections, and strategic direction. They are outlined below to promote transparency and highlight areas that may evolve over time.

- Asset inventory data is accurate as of the plan's preparation date.
- Cost estimates and lifecycle projections are based on historical data and industry benchmarks.
- Asset condition is assumed based on age or limited inspections where detailed assessments are unavailable.
- Levels of service reflect current expectations and are subject to change based on public engagement or policy direction.
- The municipality will have ongoing access to adequate financial, technical, and human resources.
- External funding programs will continue to be available at current or similar levels
- Future technologies or materials will remain comparable in cost and performance to current practices unless otherwise stated.

Overview of Risks & Mitigations Strategies Associated with Implementation of Asset Management Plans

The implementation of the Asset Management Plan (AMP) involves several risks, including data limitations, funding gaps, resource constraints, evolving regulatory requirements, and climate-related impacts which are outlined in greater detail below. The Town is actively addressing these through strategies such as improved data collection, financial planning integration, staff training, regular plan updates, and climate adaptation measures.

Risk	Mitigation Strategies
Data Limitations: Some asset classes rely on age-based assumptions or limited condition data. As such, decisions may not fully reflect asset performance.	**Improved Data Collection and Monitoring:** Ongoing investment in data quality, including condition assessments and GIS integration, will enhance decision-making accuracy.
Funding Gaps: Projected capital and operating needs may exceed current funding levels, posing risks to maintaining levels of service.	**Financial Planning Alignment:** Integrating AMP priorities into long-term financial planning and budgeting processes will help address funding shortfalls.
Resource Capacity: Limited internal staff or technical resources may challenge the implementation of recommended asset management practices or updates	**Staff Training and Capacity Building:** Continued professional development to support the annual budget process, workforce planning, multi-year planning, and the development of strategies to increase capital delivery.
Regulatory or Policy Changes: Changes in provincial legislation or reporting requirements may necessitate revisions to the plan or shift priorities.	**Plan Review and Updates:** This AMP is a living document and will be reviewed and updated at least every five years, or as significant changes occur.
Climate Change & Environmental Events: Unpredictable weather patterns and natural disasters could accelerate asset deterioration or require unexpected investments.	**Climate Adaptation Strategies:** Incorporating climate resilience into asset lifecycle planning will help safeguard infrastructure investments.

Table 6 - Overview of Risks and Mitigation Strategies Associated with Implementation of Asset Management Plans

Conclusion

The 2025 Asset Management Plans mark a significant step forward in how the Town of Newmarket manages its infrastructure. The Plans provide a clear link between service levels, capital needs, and financial strategy—enabling more informed decisions for Council, staff, and the community.

While the Town is facing infrastructure funding shortfalls over the next decade, the Plans include a path forward. By prioritizing renewal needs, aligning with growth forecasts, and integrating reserve planning and fiscal strategy, the Town can maintain critical services and gradually improve long-term sustainability.

The 2025 Asset Management Plans are not just a compliance requirement; they provide a framework for asset governance, enabling trade-off decisions that reflect community values. Through annual monitoring, budget alignment, and performance updates, the Plans will remain a central tool in ensuring infrastructure is reliable, resilient, and financially sustainable for future generations.

This concludes the Executive Summary.

2025

Roads Asset Management Plan

Newmarket

Acknowledgements

Development & Infrastructure Services Commission
Public Work Services – Operations
Engineering Services
Data Analytics And Geospatial Services
Financial Services
Services Corporate Asset Management
Asset Management Steering Committee
Infrastructure Solutions Inc.

02 Table of Contents

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03 Know Your Assets

The Town is responsible for $3 Billion+ of assets. Assets exist to provide services to the community. Their ability to deliver services depends on Town stewardship and informed decision making. As assets age, they have to be repaired or replaced.

Key takeaways:

- What do we own?
- What condition is it?
- What would it cost to replace?

Know Your Assets

Know Your Assets is the first section of the asset management plan and sets the foundation for analysis by providing an understanding of what assets the Town owns. It details the characteristics, history, age, condition, and replacement cost of the assets. This information helps inform the current state of infrastructure. The contents of this plan are based on 2023 data.

Context for State of Infrastructure

The State of the Infrastructure will combine inventory quantities, replacement costs, and condition ratings to provide a detailed breakdown of the asset portfolio. The inventory has been organized in a hierarchy to reflect the asset types providing the service, and to support reporting and planning. The Town's inventory for the Roads service area is organized in Figure 1.

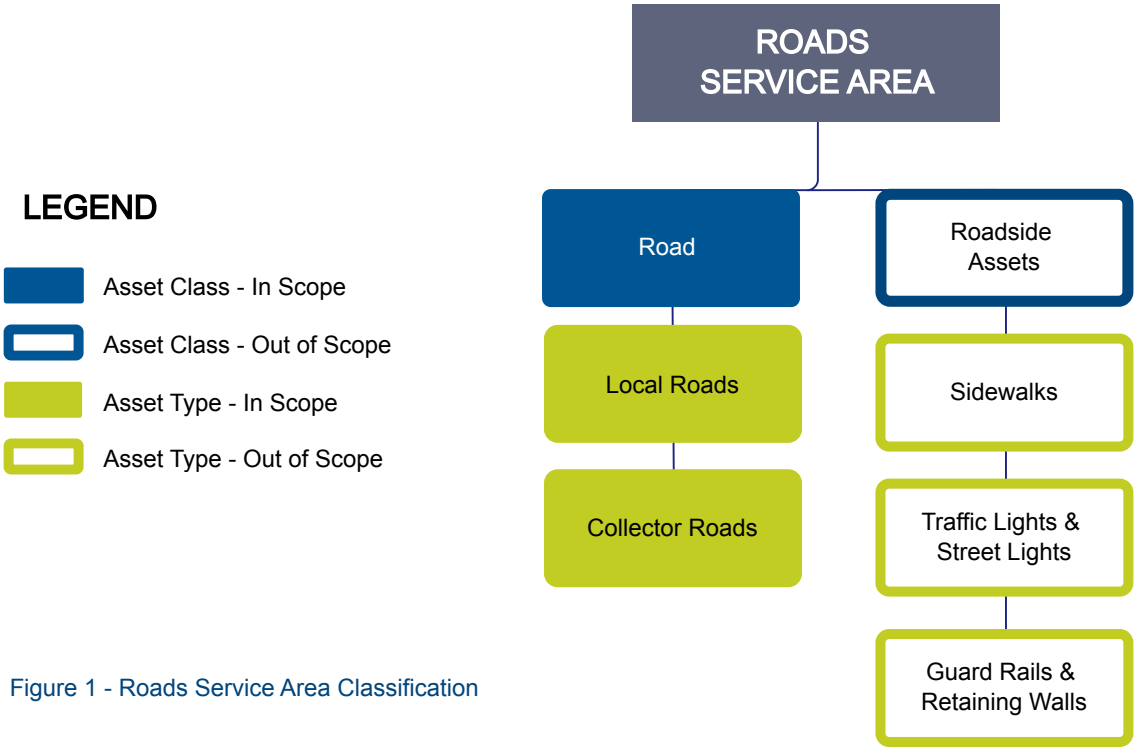


Figure 1 - Roads Service Area Classification

Condition Index

Based on age or visual engineering observations, condition indicates the level of service and likelihood of failure for an asset. Assets are assigned condition ratings on a 5-point scale. Ratings are assigned based on Pavement Condition Index, as measured by specialized equipment mounted to a vehicle that scans the Town's roads. Photos are included to illustrate differences in condition and service quality.

Illustration of Levels of Service through Asset Condition

Condition influences service quality and levels of service are based on condition as forecasted in the Financial Strategy. To illustrate this impact, a collection of images has been collected depicting the differences in condition and levels of service.

Very Good 90-100

The asset is future-ready. It is in excellent condition, well-maintained, and recently constructed or rehabilitated. It can reliably meet service needs with minimal intervention.


Good 65-90

The asset is performing well. It meets all service expectations and is supported by proactive maintenance to sustain its condition as it progresses through the early-to-mid stages of its expected service life.


Fair 50-65

The asset is functioning adequately with some active maintenance. It shows some visible signs of aging and wear.


Approaching Replacement Need 30-50

The asset is approaching the eventual end of its service life with noticeable signs of moderate deterioration. Some components beginning to require closer monitoring to maintain reliable performance and targeted maintenance is required to maintain service levels.


Ready for Replacement 0-30

The asset has reached the end of its optimal service life and is a candidate for replacement. While functional, it is not delivering services at the optimal level. There are potential increased risks of service disruption. Maintenance efforts are focused on managing risks, minimizing disruptions, and preserving functionality to provide service levels until replacement occurs.

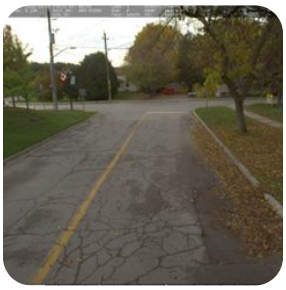



Figure 2 - Asset Condition Photo Illustration

Newmarket

Roads

STATE OF INFRASTRUCTURE

Based on data as of December 31, 2023

INFRASTRUCTURE PURPOSE

The Town's local and collector roads transport people and goods quickly and safely to where they need to go. Roads are maintained to ensure safe and smooth transportation.

KEY NOTES

Replacement Value: $553 Million

Inventory: Collector Roads (km): 66
Local Roads (km): 193

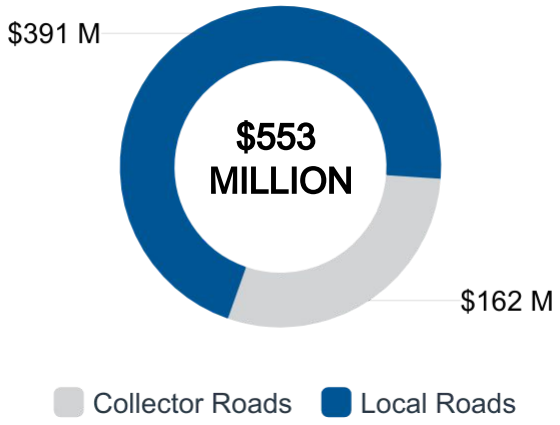
Average condition: Good

Average Road Network Condition: 68

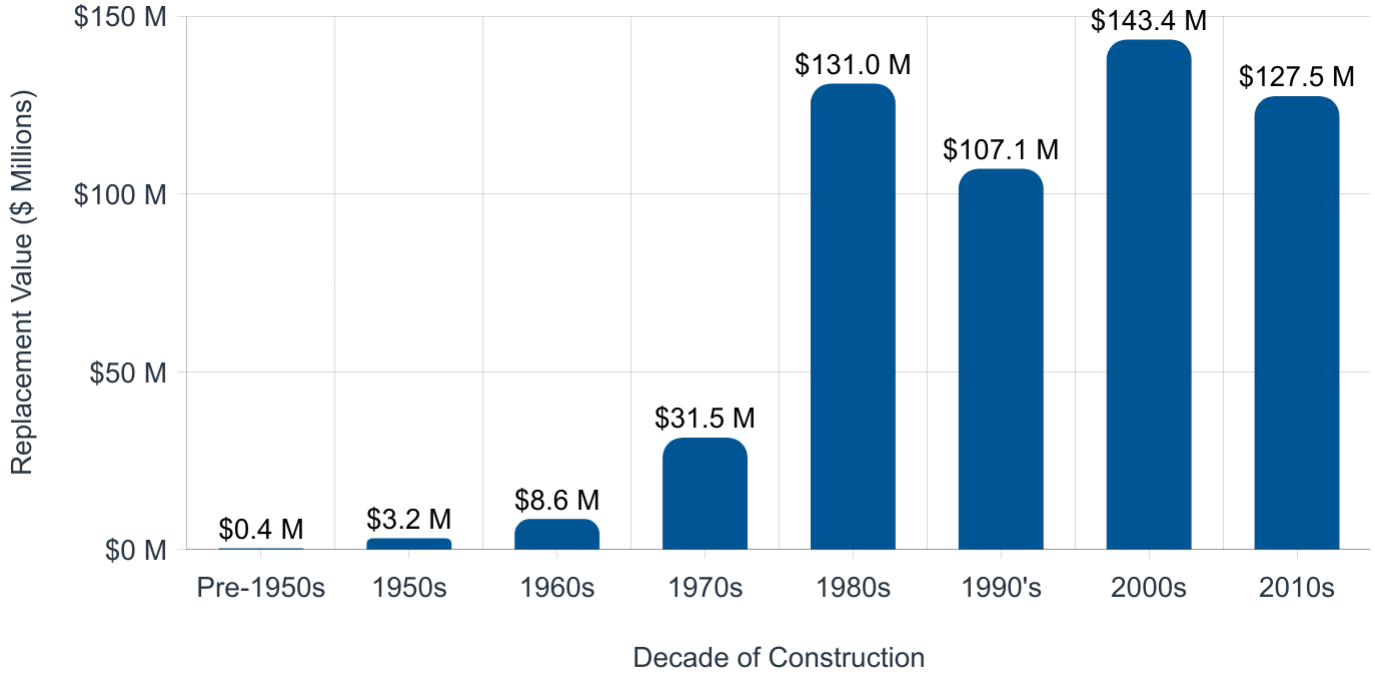
INVENTORY

Road Asset Type	Centreline Length (km)
Collector Roads	66 km
Local Roads	193 km
Total	259 km

REPLACEMENT VALUE



ROAD CONSTRUCTION BY DECADE



Roads

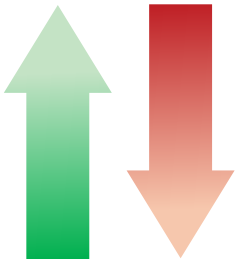
STATE OF INFRASTRUCTURE

LEGEND

Very Good | Good | Fair | Approaching Replacement Need | Ready for Replacement

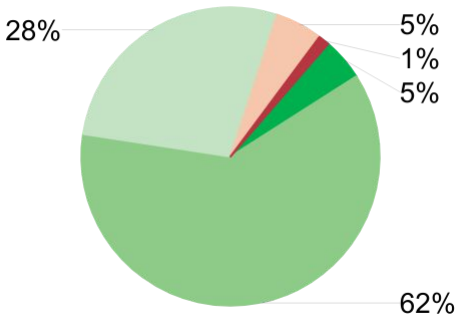
CONDITION CHANGES SINCE 2023

Assets moving in the ranges of very good, good, and fair from **91% to 94%**

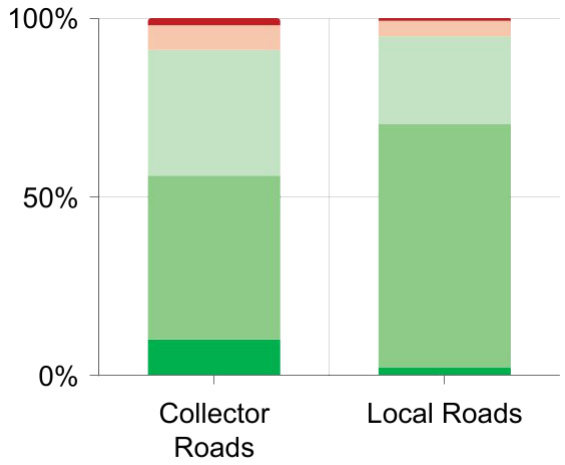


Asset moving in the ranges of approaching replacement need and ready for replacement from **9% to 6%**

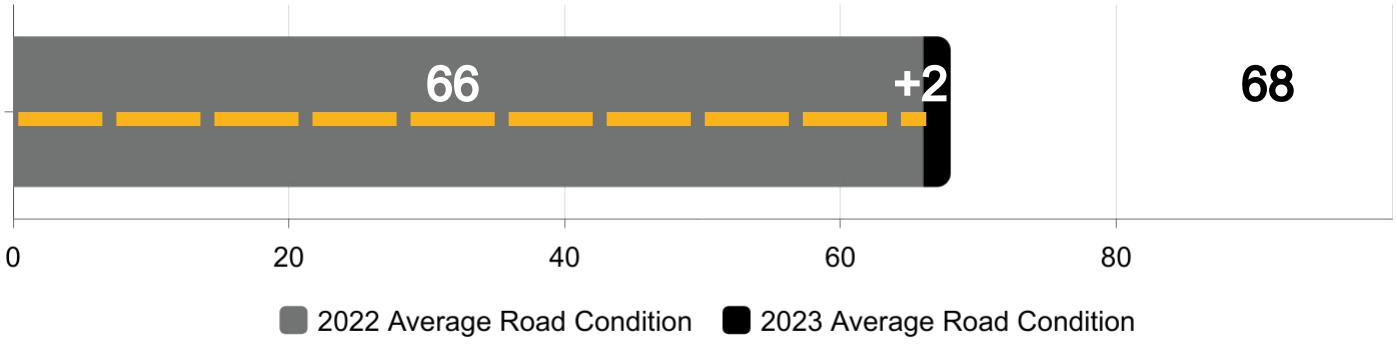
CURRENT CONDITION



CONDITION BREAKDOWN



AVERAGE ROAD NETWORK CONDITION



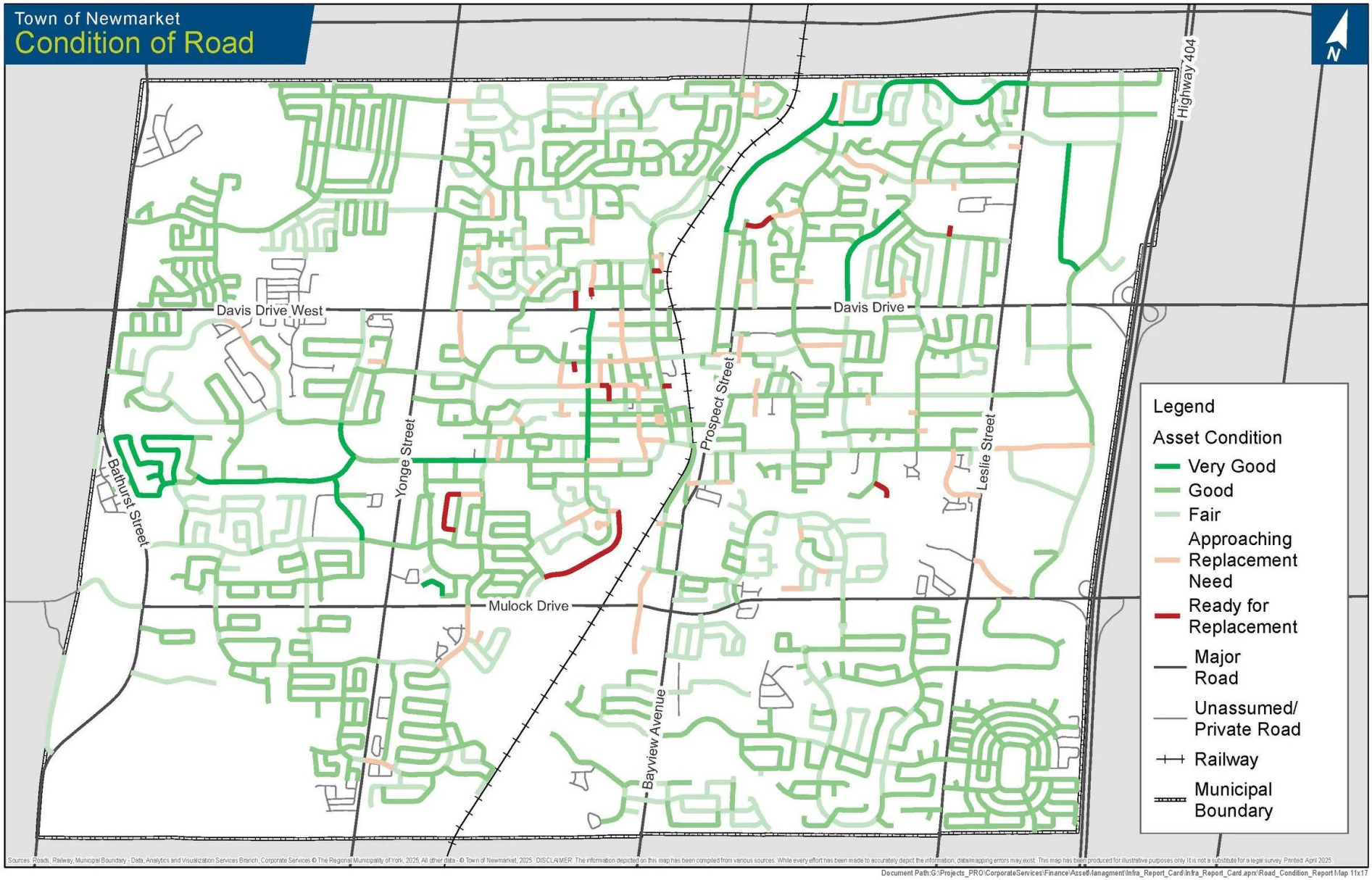
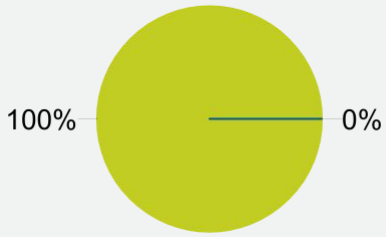


Figure 3 - Asset Scope and Condition Map

Condition Assessment Plan

Condition assessments increase knowledge of the assets, monitor performance, and refine financial projections. The Town currently uses a mix of age based and field condition assessment to determine asset condition.

Progress Towards Baseline Inspection Data



Baseline Inspections Completed

Baseline Inspections Remaining

Age-Based Assessment:
Complete

Field-Based Assessment: 100% Complete
Next Assessment:
2025

Follow Up Condition Monitoring:
Every three years conducted through York Region

04 Manage Service Delivery

Asset management is a way of doing business every day. It requires processes to balance the services provided, the risks associated and the cost.

Key takeaways:

- What services do we provide?
- What activities support service delivery?
- What are the risks of our services?

Manage Service Delivery

The Manage Service Delivery section focuses on how asset management balances trade-offs to deliver value. The expenses the Town incurs over the lifecycle of the asset are taken with the goal of ensuring residents and business continue to receive exceptional service from the Town.

Measuring Levels of Service

Levels of Service (LoS) are measured by the service outcomes, asset performance, and supporting activities. They act as guiding benchmarks that inform operations, influence decision-making, and support the effective functioning and safety of assets and service delivery.

Customer Levels of Service

This is the level of service statement the Town commits to providing the customers.

Technical Measure

This is the technical and quantifiable measure of the customer level of service statement. This includes levels of service required by the Province for public reporting under Ontario Regulation 588/17.

These measures provide a framework for monitoring performance, identifying areas for improvement, and ensuring that operational activities align with overall safety and functional requirements.

Levels of Service Alignment

The LoS measures are organized to create alignment between Town strategic objectives, a corporate goal for the service and the subsequent service criteria and technical/customer measures. The benefit of this approach is ensuring the broader goal and outcomes of a service can be monitored and addressed through specific measures and actions. The result of this process is shown on the following page.

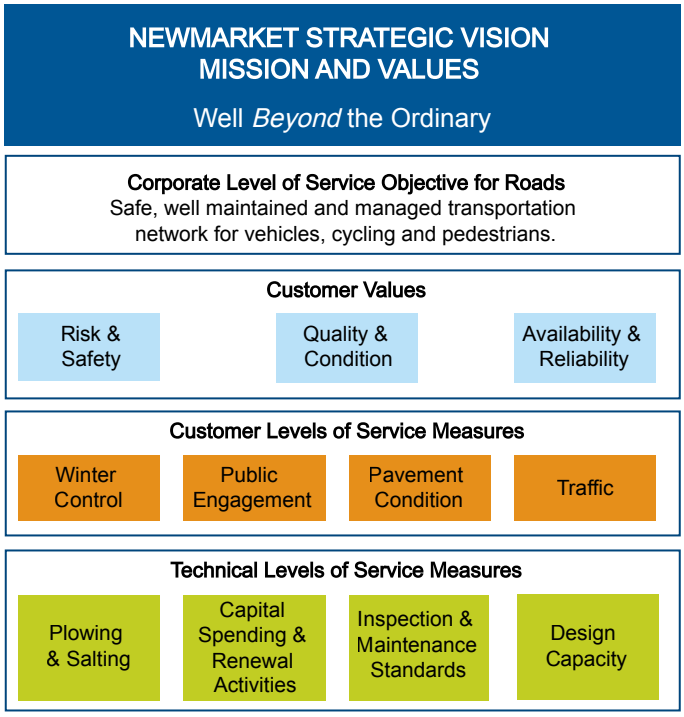


Figure 4 - Levels of Service Alignment

Performance and Results

Levels of service results are presented below using the metrics developed for the Roads Asset Management Plan.

Customer LOS Statement	Technical LOS Measure	2023 Performance	Proposed 2034 Performance
The road network is safe and well maintained.	For paved roads in the municipality, the average pavement condition index value	68	53
	Percentage of existing assets not due for replacement	99	89
	Kilometers of roads rehabilitated by resurfacing per year	2.95	N/A
	Kilometers of roads repaired by crack sealing per year	27	N/A
	Number of winter events plowed and salted (events per year)	37	N/A
	Number of significant winter events declared	3	N/A
	Number of street sweeping events per year	2	No change
The road network is convenient and available to the whole community.	Number of lane-kilometers of collector roads as a proportion of square kilometers of land area of the municipality	4.12	No change
	Number of lane-kilometers of local roads as a proportion of square kilometers of land area of the municipality	9.68	10.60

Table 1 - Current and Proposed Performance and Results

The Town is not proposing any operational service levels changes at this time as current service levels are appropriate as experienced by the community. Any changes in numbers shown in the proposed performance table are due to aging assets (which lowers condition) or asset rehabilitation (which improves condition). Any potential future adjustments will be assessed based on operational needs, stakeholder feedback, and emerging industry best practices. Performance changes will be documented in future annual update plans.

Legislative Requirements

The Town currently operates within several regulatory requirements. As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

CURRENT LEGISLATIVE REQUIREMENTS

The Town currently operates within several regulatory requirements. Regulations include:

- Minimum Maintenance Standards – Ontario Regulation 239/02

As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

NEW UPCOMING LEGISLATIVE REQUIREMENTS

The review of legislative requirements during the development of this plan found no major upcoming legislative requirements that would impact minimum levels of service requirements for the operations and maintenance of Roads assets.

Lifecycle Activities

This table outlines business practices employed by the Town to manage assets and services throughout their lifecycle.

Lifecycle Phase	Lifecycle Activity	The road network is safe and well maintained.	The road network is convenient and available to the whole community.
Acquire and Commission	Construction of new roads		✓
Operations, Maintenance, and Inspections	Regulatory Road Patrols	✓	
	Line Painting	✓	
	Winter Patrols	✓	
	Snow Plowing	✓	
	Road Salting	✓	
	Snow Removal & Disposal	✓	
	Crack Sealing	✓	
	Pot Hole Maintenance & Asphalt Repairs	✓	
	Debris Removal & Clean Up	✓	
	Winter Damage Inspections & Repairs	✓	
	Road Cuts	✓	
	Condition Assessments	✓	
	Street Sweeping	✓	
	Traffic Data Collection		✓
Renewal and Rehabilitation	Resurfacing	✓	
	Full Depth Reclamation	✓	
	Full Reconstruction	✓	

Table 2 - Lifecycle Activities

Risk

Risk can be assessed at multiple levels. This plan will evaluate risk from two key perspectives: service-level risk, which pertains to potential impacts that may disrupt the delivery of services to the public and community, and asset-level risk, which focuses on the exposure of the assets themselves.

The chart below illustrates asset risk. The risk assessment was conducted on a risk assessment matrix based on likelihood of failure and the consequence of failure.

ROADS RISK PROFILE

Likelihood of Failure

- Pavement Condition
  - Surface distress
  - Ride comfort

Consequences of Failure

- Road class
- Traffic count
- Number of lanes
- One-way streets
- Lane use
- Proximity to stakeholders like schools and hospitals
- Bus route
- Bike lanes

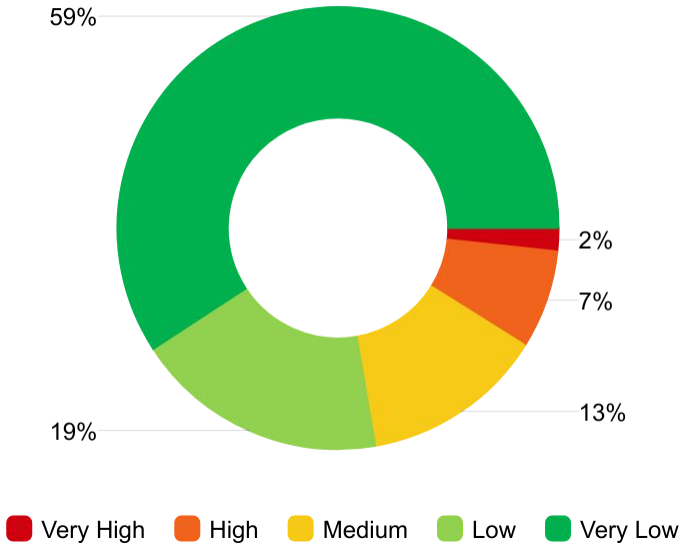


Figure 5 - Asset Risk Profile

05 Future Ready

What was once a small but thriving Town, today Newmarket is a desirable and affordable community. While the future is bright, trends like increasing service expectations, urbanization, and climate change are challenging the status quo. The future will change how the Town manages assets.

Key takeaways:

- What increases in asset-related services are expected?
- How will climate change impact assets?

Future Ready

Ongoing and future trends will impact the way the Town delivers its services and manages its assets. Proactively identifying these trends and pressures allows the Town to account for risk and take advantage of opportunities. Using planning to maintain a future outlook allows for a balance between maintaining present services while managing growth.

The Future Ready section will discuss the following:

Growth

An outlook of forecasted growth in the asset portfolio.

Climate Change

Vulnerabilities and adaption and mitigation approaches to climate change, specifically flooding. Results of a flood risk assessment are provided as flooding is the first of several types of climate considerations to be applied in the future.

Growth Planning in Newmarket & Population

The Town of Newmarket is expected to grow from its current population of approximately 90,700 residents to a future population of 118,500 by 2051 according to provincial and regional plans. At the same time, the employment base is projected to grow from 45,000 to 58,100 jobs.

		2021	2031	2041	2051
Newmarket	Population	90,700	98,900	107,200	118,500
	Employment	47,500	50,600	53,900	58,100

Table 3 - Newmarket Growth in Population and Employment

To support this population, more assets and new types of assets may be required to provide asset-related services and to maintain service levels. The asset management plans reflect planning efforts to coordinate assets and population growth in alignment with the 2019-2028 Development Charges Background Study.

Identified Growth

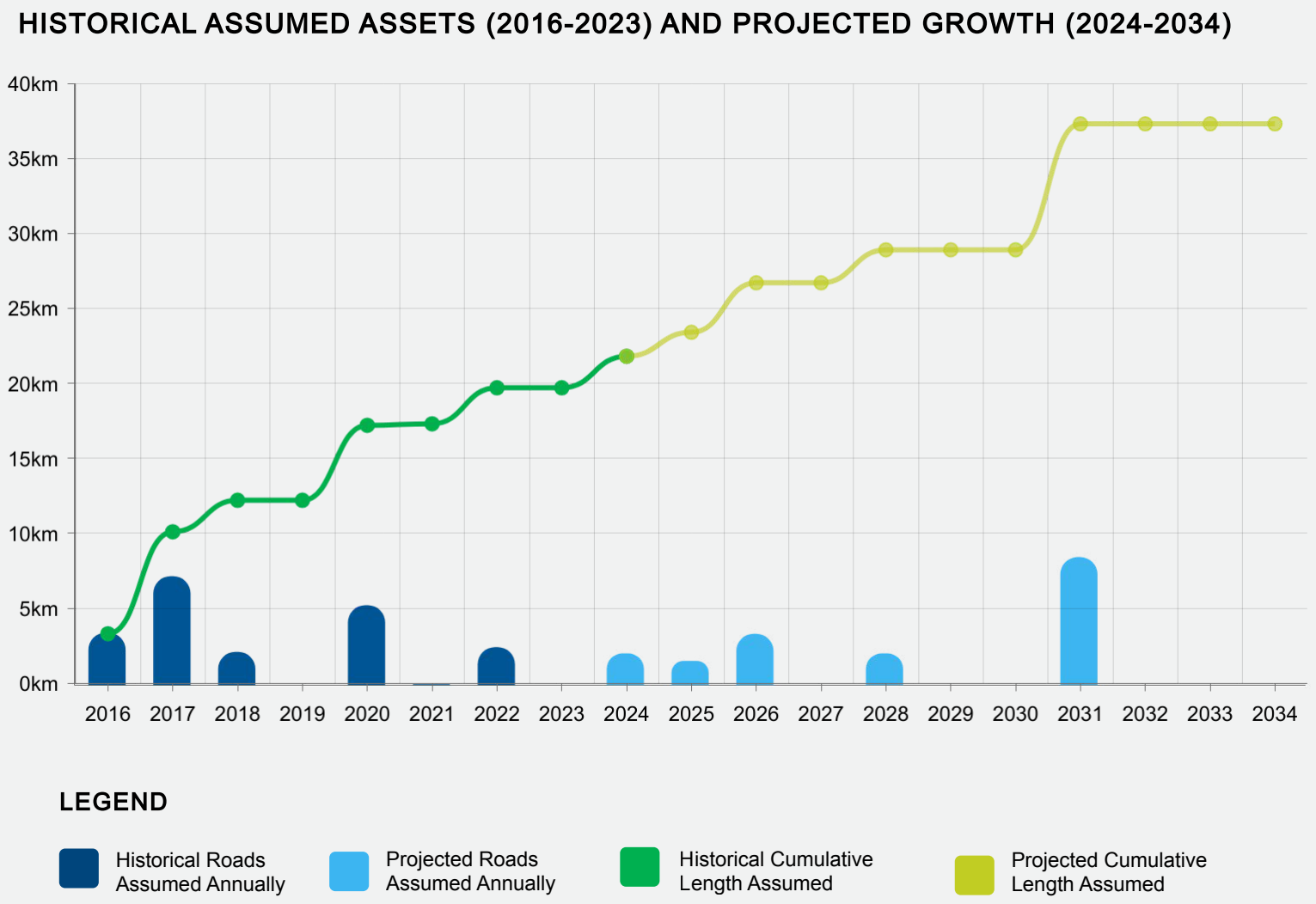


Figure 6 - Historical Assumption and Projected Growth

The following table summarizes asset increases in the asset portfolio. The graph illustrates historical and projected growth in the asset portfolio. Information on growth values and impacts will be discussed in the Financial Context section.

Years	Roads (km)
2024	2.1
2025	1.5
2026	3.4
2027	-
2028	2.1
2029	-
2030	-
2031	8.5
2032	-
2033	-
2034	-
Total	17.6

Table 4 - Asset Growth Forecast

Climate Change Assessment

To prepare for climate change impacts, the Town engaged with the Ontario Climate Consortium (OCC) to conduct a corporate-wide flood risk resilience assessment of Town-owned infrastructure. The study used an indicator-based tool to evaluate flood risk based on:

1. **Hazard** – Geospatial factors influencing riverine, overland, and groundwater flooding.
2. **Vulnerability** – Operational, social, economic, and environmental factors affecting an asset's susceptibility to flooding.

ROADS FLOOD RISK ASSESSMENT

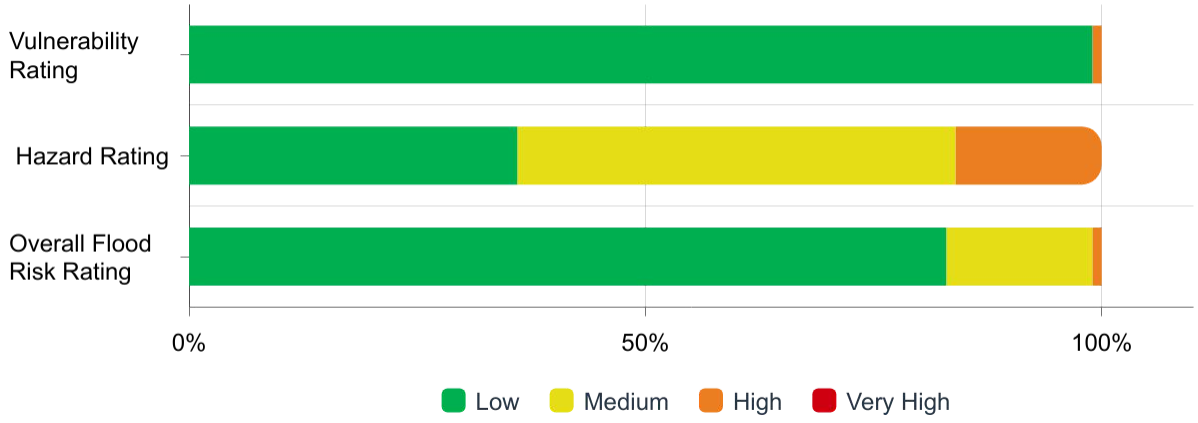


Figure 7 - Flood Risk Assessment Results

06 Financial Context

The Financial Context section brings together the data and analysis from previous sections to provide a clear view of the Town's financial situation regarding its assets. It reviews historical and current practices and future outlook based on anticipated growth. Three scenarios are introduced here to explore different levels of service based on asset condition and funding levels.

Key takeaways:

- What are the Town's current financial practices for asset management?
- What operating budget supports our assets?
- What is the long-term financial impact of growth, based on the total lifecycle of the assets?

Financial Strategy

The sustainability of Town infrastructure depends on effective management and ensuring the optimal use of available funds. The Town of Newmarket has developed a Financial Strategy to evaluate the relationship between current investment levels, service outcomes and risk of service failures. The financing strategy strengthens the budget process by reinforcing a long-term perspective of service levels. The Town modelled and prepared an analysis of three scenarios over a 10-year time horizon to determine the Proposed Levels of Service.

Capital Financial Strategy

The history of the Town's financial contributions and capital spending practices were used to inform the financial analysis conducted. This historical context provides valuable insights into the Town's fiscal health, helping to inform future financial planning and decision-making processes.

Year	Roads Reserve Contribution	Reserve Contribution as a Percentage of 2023 Replacement Value
2018	$2,617,016	0.47%
2019	$696,420	0.13%
2020	$1,202,619	0.22%
2021	$1,832,292	0.33%
2022	$976,807	0.18%
2023	$881,397	0.16%

Table 5 - Historical Reserve Contributions

Year	Roads Capital Spending on Existing Assets	Capital Spending as a Percentage of 2023 Replacement Value
2018	$3,926,502	0.71%
2019	$4,224,021	0.76%
2020	$2,074,807	0.38%
2021	$2,418,309	0.44%
2022	$6,647,624	1.20%
2023	$2,517,617	0.46%

Table 6 - Historical Capital Spending

Estimated Future Reserve Contributions

The Town's reserve contributions are geared towards long-term financial planning and to balance funding with future renewal costs. These projections will be reviewed each year through internal processes and Council-approved budgets. The Town has proposed a 1.5% annual tax increase, subject to the annual budget process, to help fund future capital asset replacements. It is assumed to continue for the next 10 years for all tax-supported assets. Funding increases for service areas would be proportional, with additional factors from the Reserve & Reserve Fund Review taken into account. The forecasted reserve contributions are based on the current population, tax collection rates, and expected population growth, along with the economic activity outlined in the Future Ready section.

Year	Roads Future Reserve Contributions	Canada Community Building Fund Allocation	Total
2025	$ 1,254,487	$ 1,787,452	$ 3,041,939
2026	$ 1,485,796	$ 1,822,015	$ 3,307,811
2027	$ 1,724,096	$ 1,857,624	$ 3,581,720
2028	$ 1,965,890	$ 1,893,754	$ 3,859,644
2029	$ 2,211,229	$ 1,930,413	$ 4,141,642
2030	$ 2,460,163	$ 1,967,611	$ 4,427,773
2031	$ 2,721,637	$ 2,006,681	$ 4,728,319
2032	$ 2,987,034	$ 2,046,338	$ 5,033,373
2033	$ 3,256,412	$ 2,086,590	$ 5,343,003
2034	$ 3,529,831	$ 2,127,446	$ 5,657,277

Table 7 - Estimated Future Reserve Contributions

Roads Scenario Methodology

To forecast capital investment need, consolidation of inventory, replacement cost, condition, levels of service, risk, and lifecycle activities as shown throughout the AMP was completed.

Three scenarios were created to answer key questions about current budget, future requirements, sustainability and proposed levels of service. Analysis is carried out in Decision Optimization Tool, the Town's risk-based investment planning software. The scope of the analysis is the capital cost of replacing existing assets. During the annual budget process, these estimates are reviewed and refined with additional cost drivers for staff delivery capacity, operational impacts, and detailed designs.

Scenario	Description of Scenario Constraints and Objectives
1 – Current Budget	The purpose of the current budget scenario is to calculate the level of service achievable with current funding. Scenario parameters are: • Maximize network performance for limited funds. • Based on current funding as of 2025.
2 –Needs Based	The purpose of the needs-based scenario is to calculate the true cost of maintaining the full asset inventory at current service levels for comparison with current practice. Scenario parameters are: • Limit the number of very poor assets to 5%. • Minimize the cost of maintaining asset portfolio but no budget constraint. • Maintain current levels of services.
3 – Proposed Levels of Service	Proposed Levels of Service documents the Town's financial strategy to increase the capital funding of asset replacements in recognition of the prevailing trends of aging assets. This is achieved through alignment with the Town's Fiscal Strategy and the Reserve Fund Review, which identifies a path to achieving sustainable asset funding levels through a long-term strategy. This strategy will be further reviewed in the Proposed Level of Service section. Scenario parameters are: • Maximize network performance for limited funds. • Employ risk-based prioritizations within the investment planning software to minimize risk. • Increase asset replacement funding from 2025 levels using the strategies identified in the Reserve Fund Review. Proposed Levels of Service are the basis for the 2025 Asset Management Plans.

Table 8 - Scenario Methodology

Roads Scenario Results

The figures on the following pages illustrate how the cost of renewals for different service targets and the condition of Roads are forecasted to change over time under all three scenarios.

SCENARIO 1 | CURRENT BUDGET

- Calculate the level of service achievable with current funding.
- Maximize network performance for limited funds.
- Based on current funding as of 2025.

CONDITION FORECAST

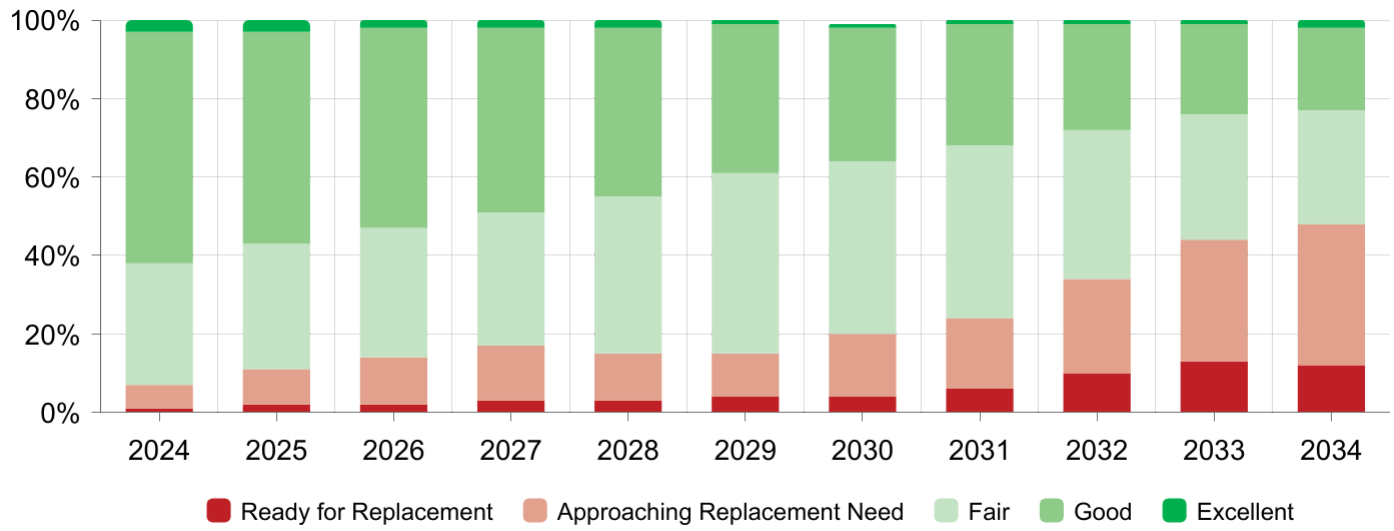


Figure 8 - Forecasted Condition over 10 Years - Current Budget

CAPITAL EXPENDITURE

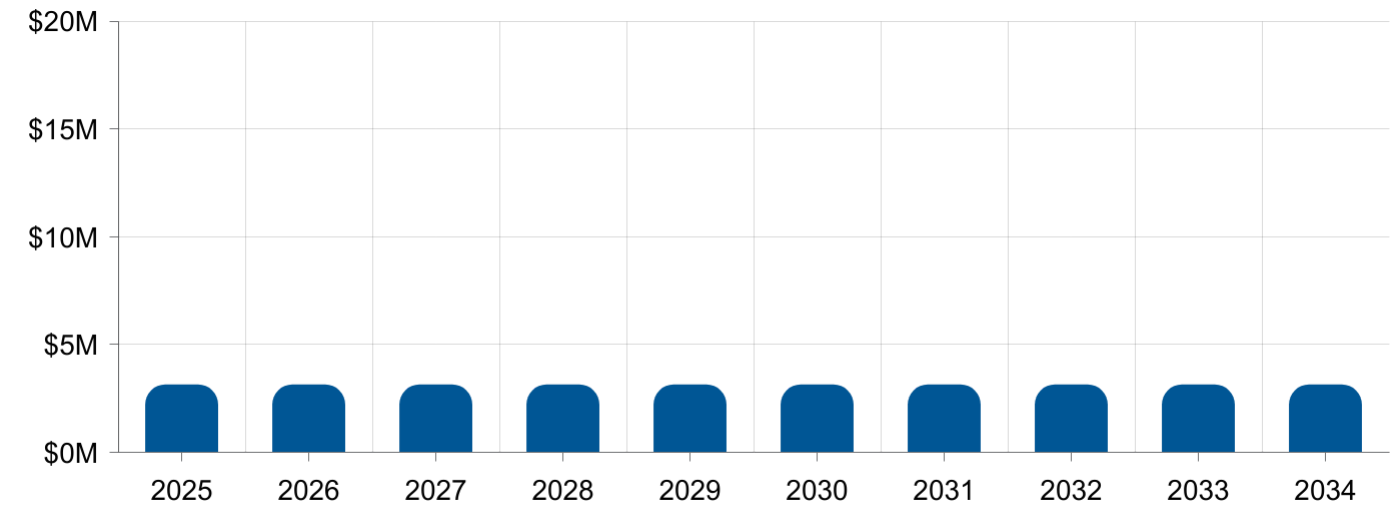


Figure 9 - Forecasted Capital Expenditure over 10 Years - Current Budget

SCENARIO 2 | NEEDS BASED

- Calculate the true cost of maintaining the full asset inventory
- Limit the number of Ready for Replacement assets to 5%
- Minimize the cost of maintaining asset portfolio, but no budget constraint

CONDITION FORECAST

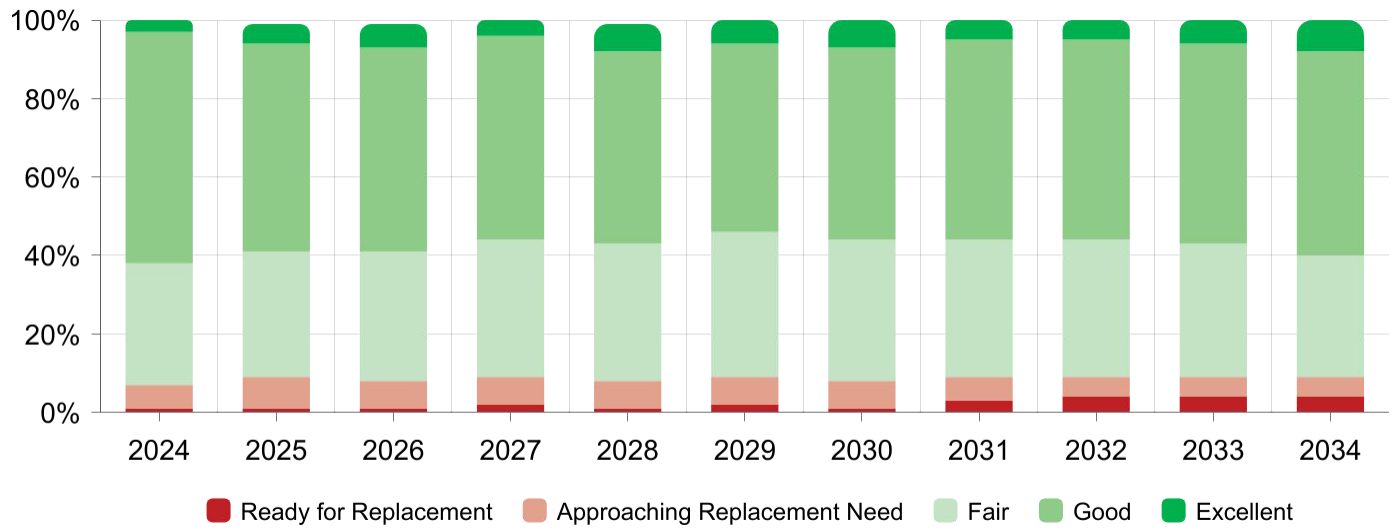


Figure 10 - Forecasted Condition over 10 Years - Needs Based Budget

CAPITAL EXPENDITURE

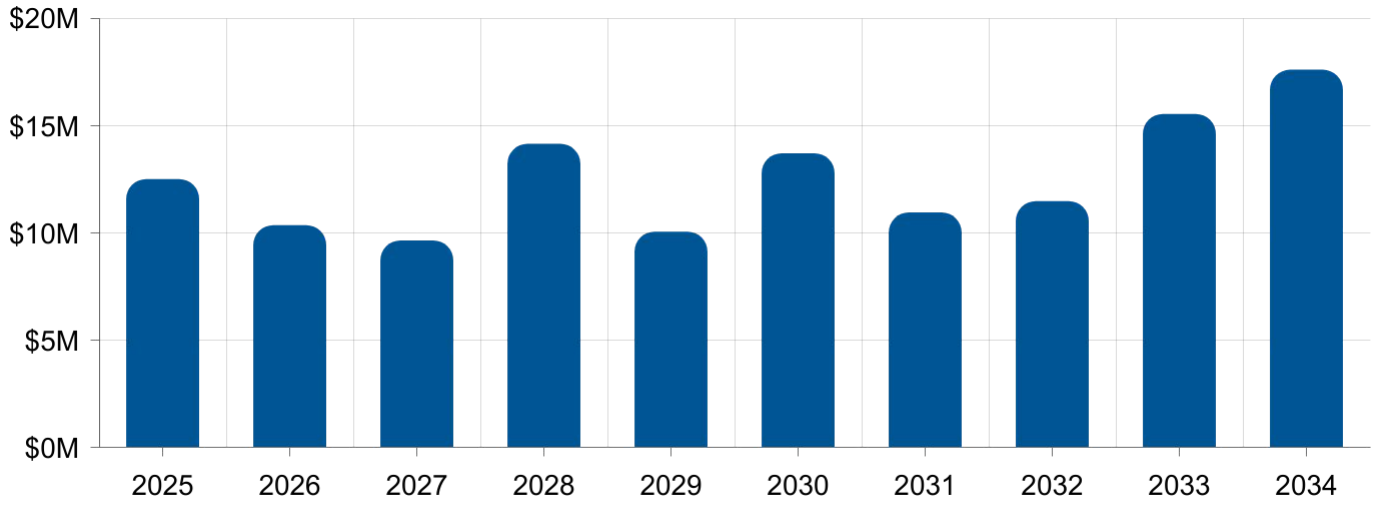


Figure 11 - Forecasted Capital Expenditure over 10 Years - Needs Based Budget

SCENARIO 3 | PROPOSED LOS

- Maximize network performance for limited funds.
- Employ risk-based prioritizations to minimize risk.
- Increase asset replacement funding as identified in the Reserve Fund Review.

CONDITION FORECAST

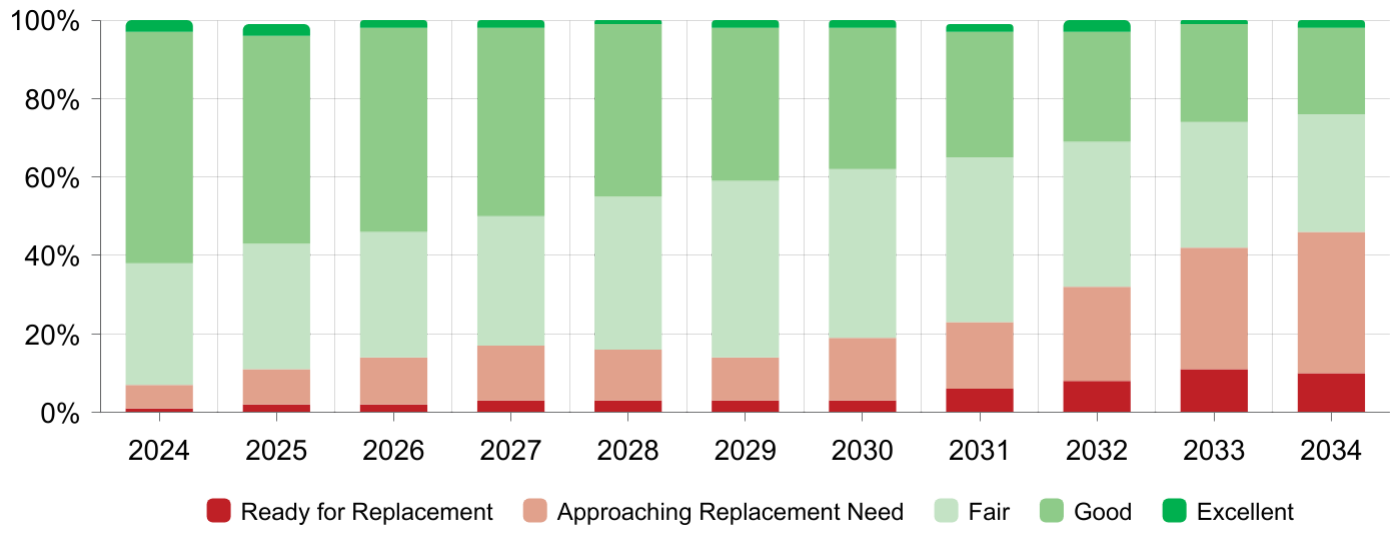


Figure 12 - Forecasted Condition over 10 Years - Proposed LOS Budget

CAPITAL EXPENDITURE

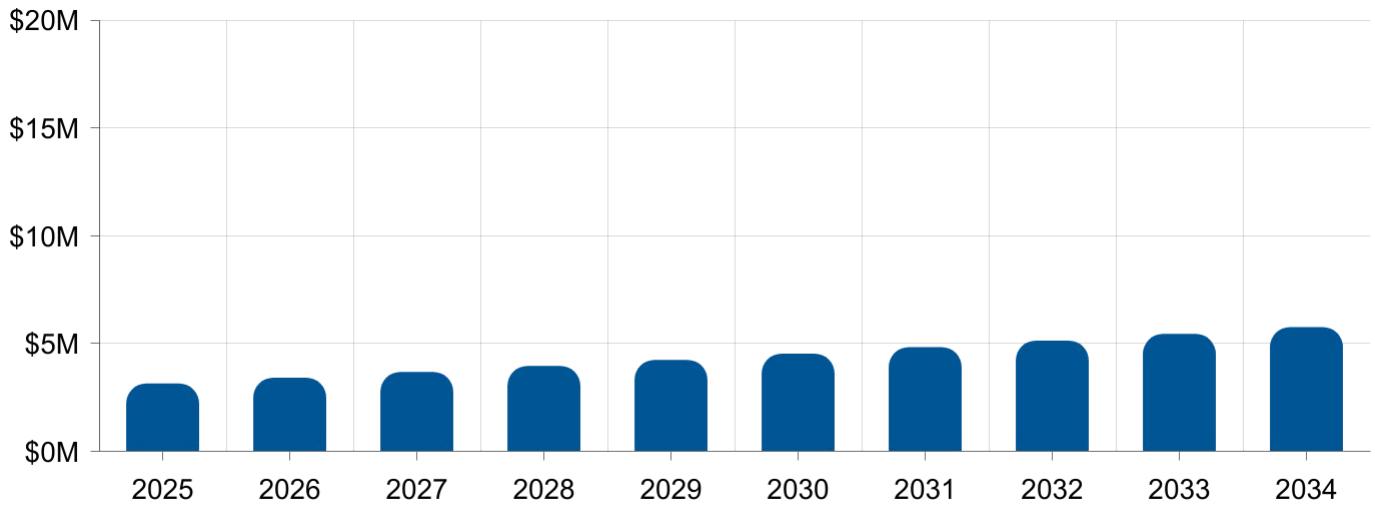


Figure 13 - Forecasted Capital Expenditure over 10 Years - Proposed LOS Budget

Operations & Maintenance

Using the Town's framework for lifecycle activities, the Town's operations and maintenance budget reflects the cost of delivering asset-related services for the activities occurring after acquisition and outside of rehabilitation, replacement, and decommissioning. These are listed in Manage Service Delivery.

The Town is not proposing levels of service changes to its operational lifecycle delivery, as identified in the performance results shown in Levels of Service section and discussed further in Proposed Levels of Service.

$3.56M

Annual O&M cost for Roads assets

Financial Impacts of Growth

When a new asset is commissioned, it begins a lifecycle of service and costs. The total value of growth in assets by replacement value identified in Future Ready is as follows. This asset management value may vary from other estimates which consider local factors, developer agreements, or staff resources needed to support growth.

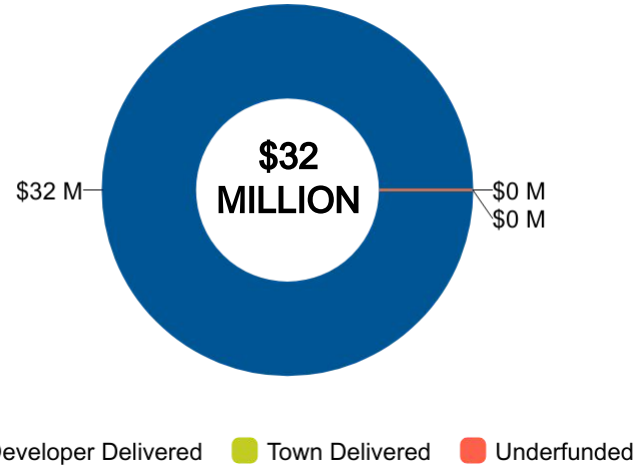


Figure 14 - Total Value of Growth by Funding Source

While providing services, new assets also requires operations, maintenance, and eventual replacement. Acquiring an asset means anticipating future costs, which is essential for financial planning and understanding the total cost of ownership. To reflect this, the Financial Impact of Growth depicts two types of costs: annual O&M cost and reserve fund contribution.

Annual Operating Impact

The annual operating impact reflects the cost of maintaining assets at current service levels, including inspections, cleaning, and energy use. These costs are estimated by scaling current service levels to match growth and are measured in operating dollars per year. Using the asset quantities forecasted in Future Ready, the increases in operations and maintenance costs to maintain current service levels over the next 10 years is expected to be as shown below. This forecast will be reviewed and refined through the annual budget process as projects are scoped and operational needs are confirmed.

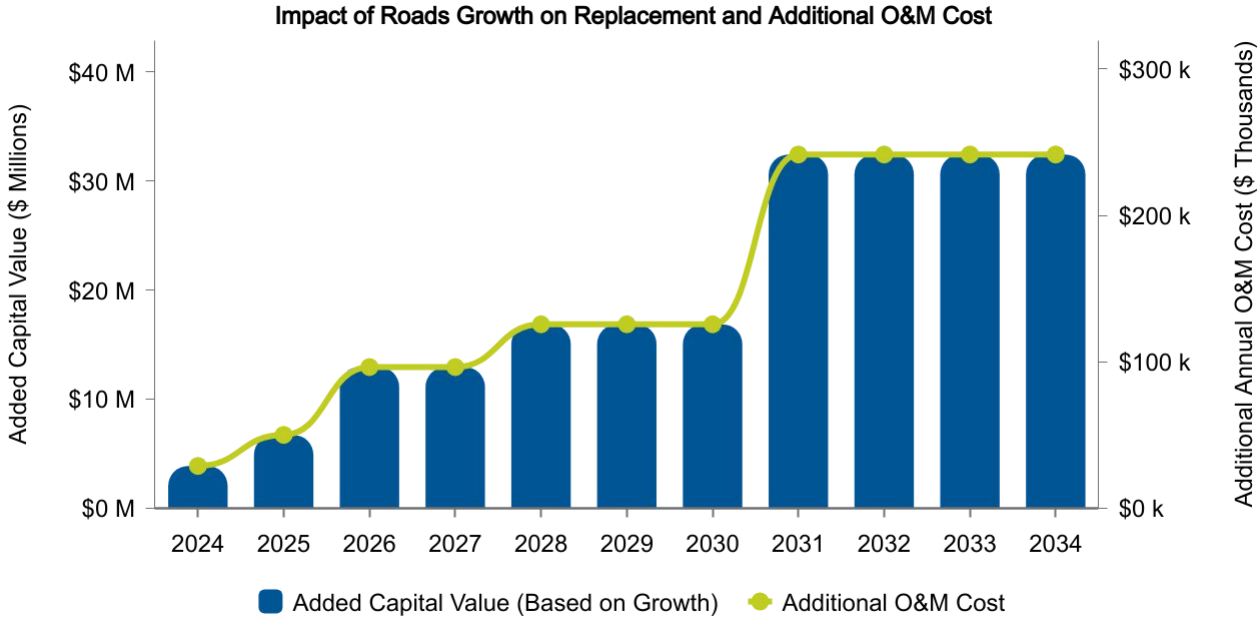


Figure 15 - Impact of Growth on Replacement Cost and Additional Annual O&M Cost

Financial Impacts of Growth - Continued

Reserve Fund Contribution for Sustainable Replacements

Annual reserve contributions ensure funds are available to replace assets at the end of their useful life by spreading costs evenly over time. This prevents a backlog of future replacements and supports asset sustainability. The contribution is calculated by dividing total replacement costs by average asset lifespan. It excludes other capital costs like upgrades, or staff resources to supported added capital delivery. It assumes based on the Town's Reserve Fund Review that the Town can achieve this ratio of funding for all of its assets over time. The graph below shows the increased annual contributions required to sustain future capital replacements.

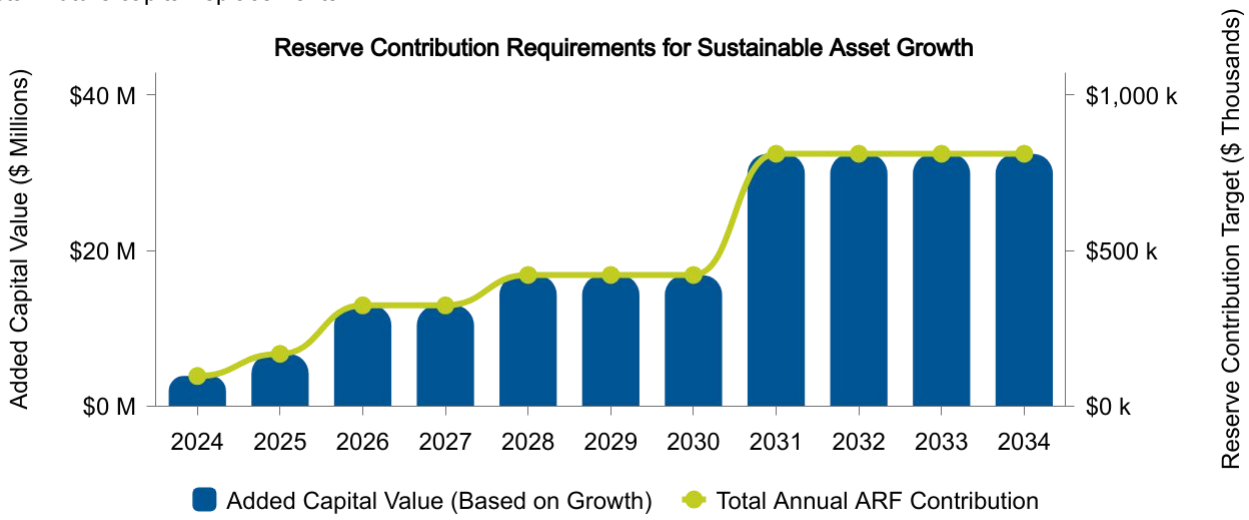


Figure 16 - Reserve Contribution Requirements for Sustainable Asset Growth

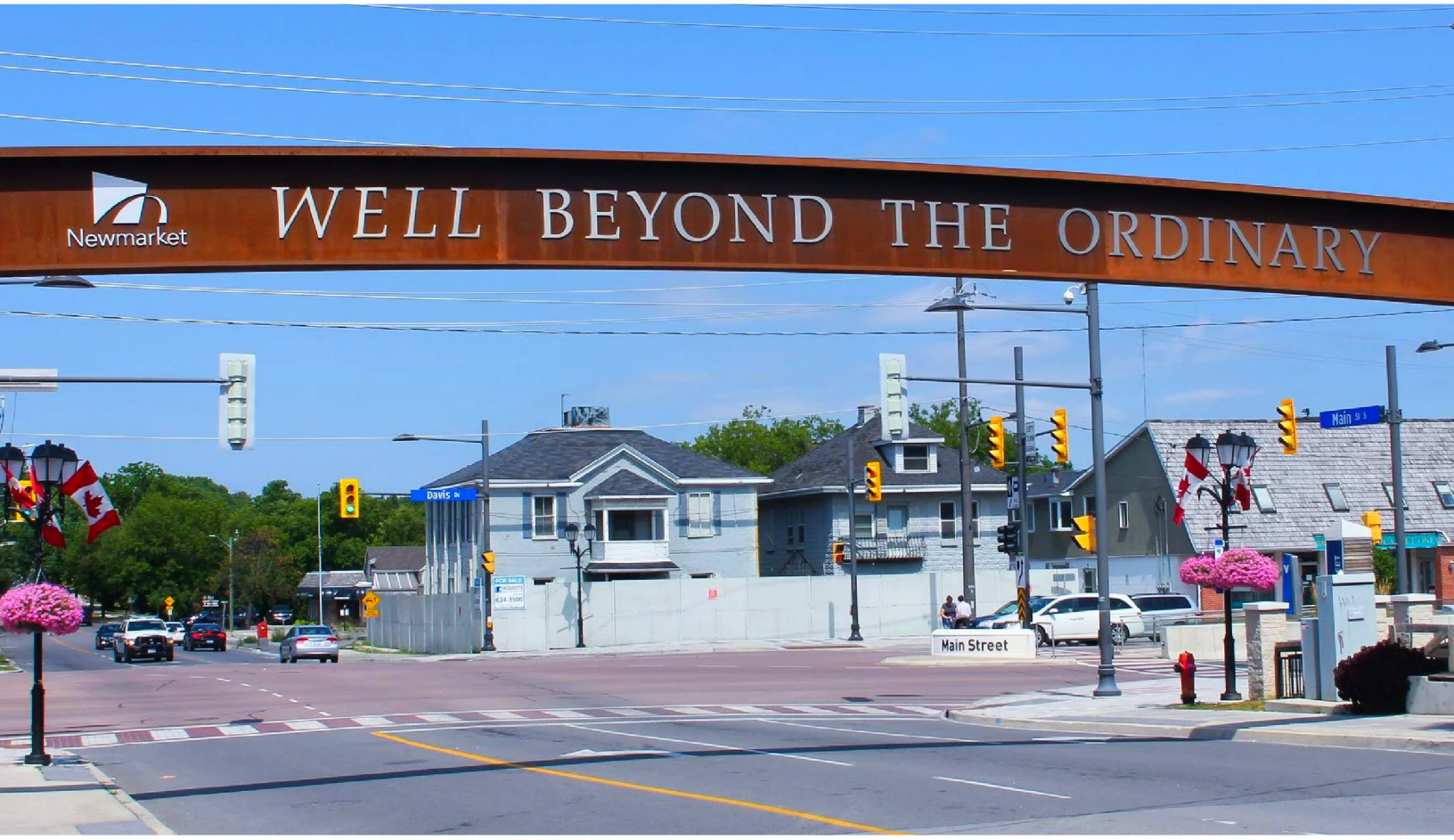
Total Cost of Growth

Accounting for both operational and maintenance costs and reserve contribution requirements, the total estimated annual cost of growth is summarized in the table below. The funding of the growth impacts is discussed further in Proposed Levels of Service.

Financial Impact by Year	Growth in Assets (Replacement Value)	Annual Total O&M Costs	Annual Reserve Contribution Target	Total Annual Financial Impact of Growth (Cumulative)
2024	$3,874,856	$28,862	$96,871	$125,733
2025	$2,855,680	$21,271	$71,392	$218,396
2026	$6,222,880	$46,351	$155,572	$420,319
2027	$0	$0	$0	$420,319
2028	$3,917,360	$29,179	$97,934	$547,432
2029	$0	$0	$0	$547,432
2030	$0	$0	$0	$547,432
2031	$15,581,120	$116,057	$389,528	$1,053,016
2032	$0	$0	$0	$1,053,016
2033	$0	$0	$0	$1,053,016
2034	$0	$0	$0	$1,053,016

Table 9 - Total Cost of Growth Summary over 10 Years

07 Proposed Levels of Service



Proposed Levels of Service forecasts the projected service levels the Town will deliver through its assets using a financial strategy in alignment with O.Reg. 588/17. The Proposed Levels of Service forms the basis for 10-year forecasting, annual budget recommendations, risk management, and performance monitoring. It incorporates information from all previous sections of the asset management plans.

Key takeaways:

- What is the proposed level of service based on a holistic view of the combined factors (cost, level of service, risk)?
- How is the proposed level of service achieved?
- What is the proposed level of service performance forecast?
- What is the financial summary of the proposed level of service?

Proposed Levels of Service

Concluding the Asset Management Plans in accordance with O.Reg. 588/17, Proposed Levels of Service can be summarized based on financial analysis and the information contained throughout the plans.

Levels of Service Achieved Through Capital Renewals and Replacements

The Proposed Levels of Service Scenario including its funding and asset conditions are the Town's selected plan for funding renewals and replacement. It considers risk associated with aging assets against the Town's goals of sustainably providing quality asset-related services at a level that is affordable and appropriate for the community.

Level of Service Option	Rationale	Funding Achieved Over 10 Years	Funding Gap
Scenario 1 Current Budget	Current Budget reflects that the Town currently provides strong levels of funding for maintaining its assets, but what was sufficient for historical levels of renewal will not be appropriate going forward as assets continue to age. The decrease in service levels over 10 years are not a rate that is sustainable or appropriate for the community and would reflect an increase in risk.	$31.42M	($94.50M)
Scenario 2 Needs Based Budget	Needs Based expands on Scenario 1 by showing the financial needs associated with maintaining an aging asset portfolio. This shows that the true cost of maintaining the Town's assets is more costly than what the Town currently provides. When combined with a risk-based approach, this was used to inform Scenario #3 Proposed Levels of Service.	$125.92M	N/A
Scenario 3 Proposed Levels of Service	Proposed Levels of Service aligns with the Town's overarching financial strategy, balancing levels of service, risk, and affordability. It shows some potential decrease in service levels in the short term at a rate that is acceptable when balanced against affordability concerns and risk assessments. The Fiscal Strategy and Reserve Fund Review demonstrates that service levels can be achieved over a longer term. The financial strategies include rate-supported financial plans, increased tax-supported contributions to asset management funds, reserve management and investments, assessment growth, use of provincial and federal grants, interfund-borrowing, annual budgeting, and where allowable a role for external debt funding of capital projects.	$44.12M	($81.80M)

Table 10 - Levels of Service Options Funding Gap

Levels of Service Achieved Through Operations and Maintenance

The Town is not proposing any material changes or enhancements to the lifecycle activities and operational service levels. This is because:

- In accordance with the Municipal Act and Town municipal funding practices, the operating budget is considered a sustainable source of funding operations and maintenance through rate and tax-supported annual budgets.
- The current service levels are affordable and appropriate as they are already experienced by the community.
- Maintaining current service levels allows the Town to acquire asset expansions associated with population growth using assessment growth, without further financial impacts. This is part of the Town's Fiscal Strategy.
- The assessed risk of the condition of the assets based on the funding of renewals is within the Town's operational capacity to mitigate potential risks.

Cost of Current Levels of Service	Proposed Levels of Service	Shortfall
$3,563,378.90	No Change	$0

Table 11 - Proposed Levels of Service O&M Funding Shortfall

Levels of Service Maintained With Growth

The expected growth in population demonstrates the need to expand and intensify assets used to maintain service levels. The forecasts of asset growth show increases to the asset portfolio in line with population increases. The Town funds the acquisition, operations and future replacement of growth assets to maintain strong services to the community. These cost estimates do not include the human resources of delivering growth assets.

Value of Assets to Support Proposed Levels of Service through Growth	Value of Developer Delivered Assets	Value of Town Delivered Assets	Shortfall
$32,451,896	$32,451,896	$0	$0

Table 12 - Growth Capital Funding Shortfall

Once assets are operational, it was shown there is a new operating cost to maintain them. To achieve the Proposed Level of Service for new assets as well as existing assets, the Town incorporates growth principles into its budget process by reserving the use of assessment growth to fund the operations of new assets. This ensures that growth in population, growth in assets, assessment growth, and service levels achieve parity as intended by the Development Charges Act.

Total Operating Impact of Growth for Proposed Levels of Service	Forecasted Operating Budget Allocated Through Assessment Growth	Shortfall
$241,719	$241,719	$0

Table 13 - Growth O&M Funding Shortfall

Service Risk

After considering the trade-offs between service levels and affordability, risk was considered to confirm service levels are appropriate. Risks were identified and mitigated to levels that are appropriate for the community and the Town's operations and maintenance program. Risks associated with the Proposed Levels of Service are:

Service Risk	Mitigation Measures	Residual Risk
Aging infrastructure increasing maintenance costs.	Proactive maintenance programs like crack sealing to keep assets in good to fair condition for as long as possible.	Monitor for increasing maintenance costs associated with backlog of capital.
Severe weather and climate change worsening road deterioration on poor condition roads.	Pavement treatments, crack sealing, increased drainage capacity.	More frequent repairs, need for climate-resilient designs.
Lower travel speeds associated with bumpier roads.	Routine surface repairs, clearing debris, resurfacing. Prioritization of roads with higher traffic volumes.	Potential for lower travel speeds on local roads that are awaiting capital repairs.
Customer satisfaction associated with increased construction activity and bumpier roads.	Transparent communication of maintenance schedules, public engagement,timely issue resolution.	Customer feedback related to roads may still increase.
Increased number of insurance claims arising from road condition coinciding with damage to vehicles.	Compliance with minimum maintenance standards, proactive road repairs including patching and pothole repairs, inspections and documentation.	Claims and settlements may still occur.
Winter maintenance impacts from surface discontinuities.	Routine pre-winter inspections - Identify surface discontinuities before winter maintenance, road patching. Winter maintenance strategy - mark/track identified heaved locations on maps, provide reminders to operators of these locations.	Some areas of slower winter maintenance operations, some residual risk of plow & road damage during winter operations.

Table 14 - Service Risk and Mitigation Measures

Proposed Levels of Service Performance

Proposed Levels of Service have been considered across the asset lifecycle, financially costed, and analyzed for risk. To quantify service levels, the performance measures identified by Managed Service Delivery can be projected out to 2034. These service levels will be monitored and reviewed annually. The Town's proposed levels of service measures are:

Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Condition	65	64	63	62	61	59	58	56	55	53
Percentage of existing assets not due for replacement.	98%	98%	97%	97%	97%	97%	94%	92%	89%	89%
Kilometers of roads rehabilitated by resurfacing per year.										N/A
Kilometers of roads repaired by crack sealing per year.										N/A
Number of winter events plowed and salted (events per year).										N/A
Number of significant winter events declared.										N/A
Number of street sweeping (events per year).										N/C
Number of lane-kilometers of collector roads as a proportion of square kilometers of land area of the municipality.										N/C
Number of lane-kilometers of local roads as a proportion of square kilometers of land area of the municipality.	9.88	10.05	10.05	10.16	10.16	10.16	10.60	10.60	10.60	10.60

Table 15 - Proposed Levels of Service Performance

N/A - Not Applicable
N/C - No change

Financial Summary

Throughout the Proposed Levels of Service process, the Town defined several financial strategies to achieve its proposed levels of service. These included:

- Increasing asset renewal funding through a wide range of reserve management methods focused on larger contributions, balancing risk and affordability.
- Planning asset growth in-line with population growth, and including development charges and assessment growth as part of asset financial planning.
- Maintaining operations and maintenance funding at current levels to support consistent annual lifecycle activities.
- Integrating asset management planning with the annual budget process so initial estimates and recommendations can be refined to incorporate detailed designs, capital delivery capacity, and operations and maintenance impacts of changes in assets.

When each analysis is combined, the total cost of the asset lifecycle over the next 10 years can be summarized as follows:

Financial Impact by Year	Existing Assets			Growth Assets		
	Base Operating Costs	Proposed Replacement Capital Spending	Cumulative Capital Shortfall	One-Time Capital for Growth	Annual Operating Impacts of Growth	Annual Reserve Contributions for Growth
2025	$3,563,379	$3,141,939	($9,359,046)	$2,855,680	$50,133	$168,263
2026	$3,563,379	$3,407,772	($16,303,234)	$6,222,880	$96,484	$323,835
2027	$3,563,379	$3,681,757	($22,263,947)	$0	$96,484	$323,835
2028	$3,563,379	$3,959,642	($32,444,910)	$3,917,360	$125,663	$421,769
2029	$3,563,379	$4,241,631	($38,255,239)	$0	$125,663	$421,769
2030	$3,563,379	$4,527,741	($47,424,508)	$0	$125,663	$421,769
2031	$3,563,379	$4,828,351	($53,533,397)	$15,581,120	$241,719	$811,297
2032	$3,563,379	$5,133,383	($59,874,869)	$0	$241,719	$811,297
2033	$3,563,379	$5,443,007	($69,966,027)	$0	$241,719	$811,297
2034	$3,563,379	$5,757,242	($81,797,445)	$0	$241,719	$811,297

Table 16 - Total Cost of Asset Lifecycle over 10 Years

Managing Shortfalls

It is understood that an infrastructure funding gap is common among municipalities. Studies have shown Canadian municipalities carry a disproportionate burden for infrastructure investments, relative to the municipal share of all governmental funding seen in Canada. Based on Statistics Canada benchmarking, the Town is in a better than average position for its infrastructure assets. The Town is committed to optimizing the use of limited funds to provide strong services to the community while continuing to seek additional funding. Each stream of service delivery was considered for funding impacts. There were funding shortfalls that could not be addressed, resulting in the Town's proposed levels of service:

Service Delivery	Total Shortfall Over 10 Years
Capital	($81,797,445)
Operating	$0
Growth	$0

Table 17 - Proposed Levels of Service Funding Shortfall Summary

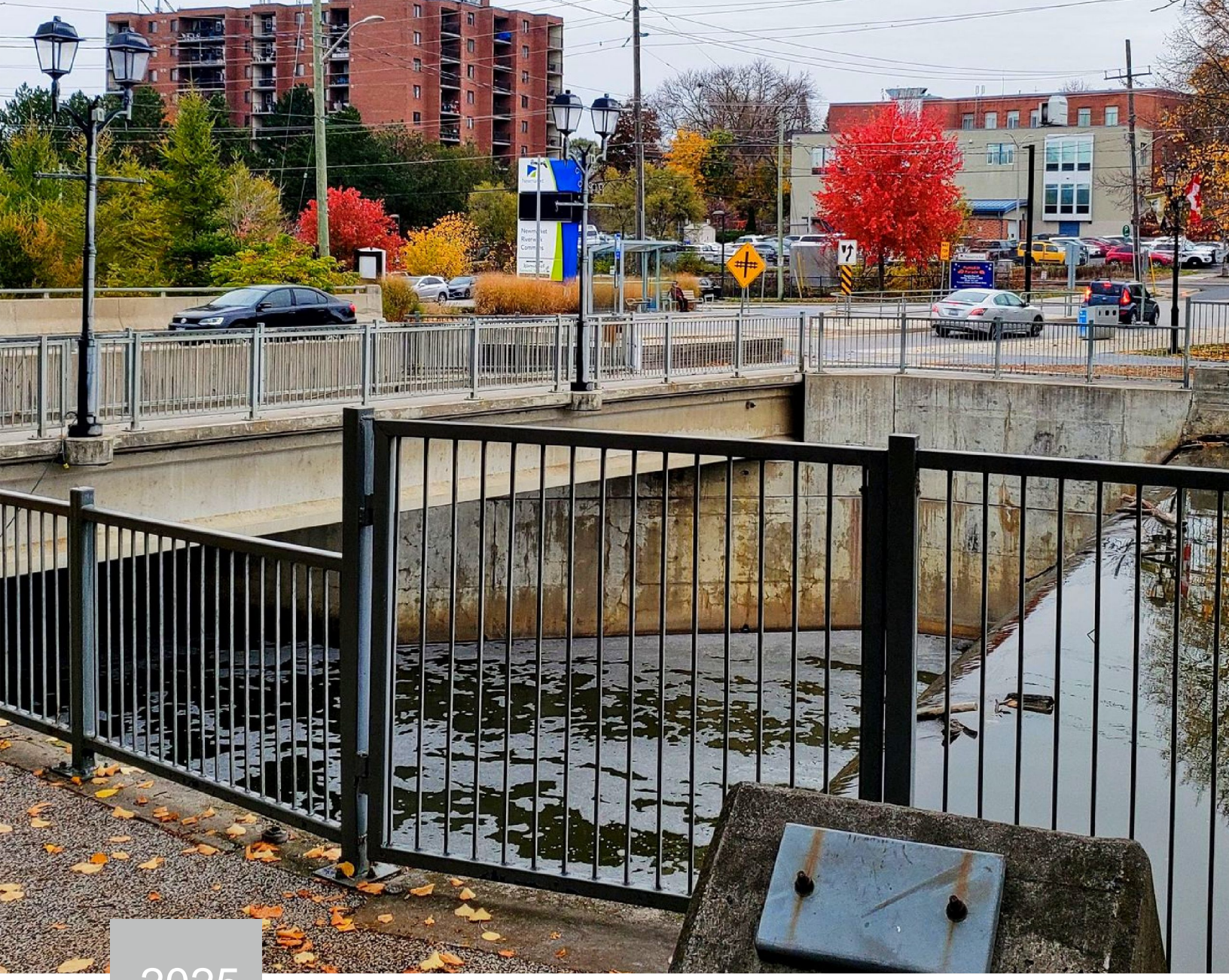
Based on the Town's Proposed Levels of Service, the Town will move forward with the adopted financial strategy conceding the shortfall and the associated trade-offs. The Town will continue to seek additional funding opportunities identified in the Fiscal Strategy and will monitor performance for future updates.

08 Conclusion

Newmarket's asset management planning process advances the Town's objectives for financial sustainability, and demonstrates a commitment to Town values of being *Well Beyond the Ordinary*. Asset management is a continuous improvement process. Through iterations of development and implementation, new asset management capabilities can develop and others can improve.

The Asset Management Plans is a significant milestone, and part of a broader implementation of asset management capabilities by the Corporate Asset Management Office and Town business units. The Town will review and update asset management plans every five (5) years. Plans will be approved and endorsed by Town Council.

Asset management is not a document or a software. It is a way of doing business every day, and a lifelong journey to improve the Town. Through this journey, the Town can truly become *Well Beyond the Ordinary.*



2025

Bridges Asset Management Plan

Newmarket

Acknowledgements

Development & Infrastructure Services Commission
Public Work Services – Operations
Engineering Services
Data Analytics And Geospatial Services
Financial Services
Corporate Asset Management Office
Asset Management Steering Committee
Infrastructure Solutions Inc.

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03 Know Your Assets

The Town is responsible for $3 Billion+ of assets. Assets exist to provide services to the community. Their ability to deliver services depends on Town stewardship and informed decision making. As assets age, they have to be repaired or replaced.

Key takeaways:

- What do we own?
- What condition is it?
- What would it cost to replace?

Know Your Assets

Know Your Assets is the first section of the asset management plan and sets the foundation for analysis by providing an understanding of what assets the Town owns. It details the characteristics, history, age, condition, and replacement cost of the assets. This information helps inform the current state of infrastructure. The contents of this plan are based on 2023 data.

Context for State of Infrastructure

The State of the Infrastructure will combine inventory quantities, replacement costs, and condition ratings to provide a detailed breakdown of the asset portfolio. The inventory has been organized in a hierarchy to reflect the asset types providing the service, and to support reporting and planning. The Town's inventory for the Bridges service area is organized in Figure 1.

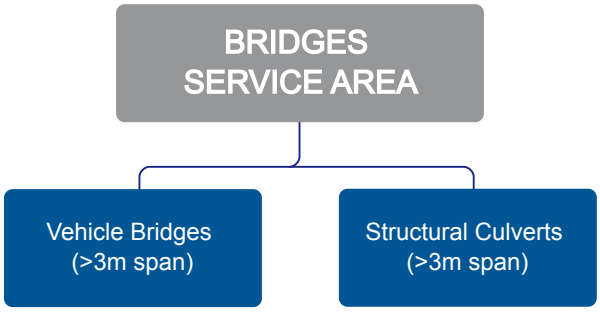


Figure 1 - Bridges Service Area Classification

Condition Index

Based on age or visual engineering observations, condition indicates the level of service and likelihood of failure for an asset. Assets are assigned condition ratings on a 5-point scale. Ratings are assigned a Bridge Condition Index as measured by engineering specialists under a provincially legislated protocol. Photos are included to illustrate differences in condition and service quality.

Illustration of Levels of Service through Asset Condition

Condition influences service quality and levels of service are based on condition as forecasted in the Financial Strategy. To illustrate this impact, a collection of images has been collected depicting the differences in condition and levels of service.

Very Good 85-100

The asset is future-ready. It is in excellent condition, well-maintained, and recently constructed or rehabilitated. It can reliably meet service needs with minimal intervention.


Good 70-85

The asset is performing well. It meets all service expectations and is supported by proactive maintenance to sustain its condition as it progresses through the early-to-mid stages of its expected service life.


Fair 55-70

The asset is functioning adequately with some active maintenance. It shows some visible signs of aging and wear.


Approaching Replacement Need 40-55

The asset is approaching the eventual end of its service life with noticeable signs of moderate deterioration. Some components beginning to require closer monitoring to maintain reliable performance and targeted maintenance is required to maintain service levels.


Ready for Replacement 0-40

The asset has reached the end of its optimal service life and is a candidate for replacement. While functional, it is not delivering services at the optimal level. There are potential increased risks of service disruption. Maintenance efforts are focused on managing risks, minimizing disruptions, and preserving functionality to provide service levels until replacement occurs.


Figure 2 - Asset Condition Photo Illustration

Newmarket

Bridges

STATE OF INFRASTRUCTURE

Based on data as of December 31, 2023

INFRASTRUCTURE PURPOSE

The Town's bridges provide a safe passage to vehicles, cyclists, and pedestrians. Some also serve as local landmarks in Town.

KEY NOTES

Replacement Value: $40 Million

Inventory: Vehicle Bridges 13
Structural Culverts: 18

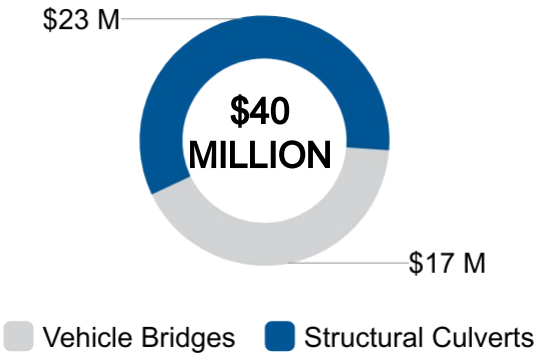
Average condition: Fair

Average Vehicle Bridge Age: 36 years
Average Structural Culvert Age: 42 years

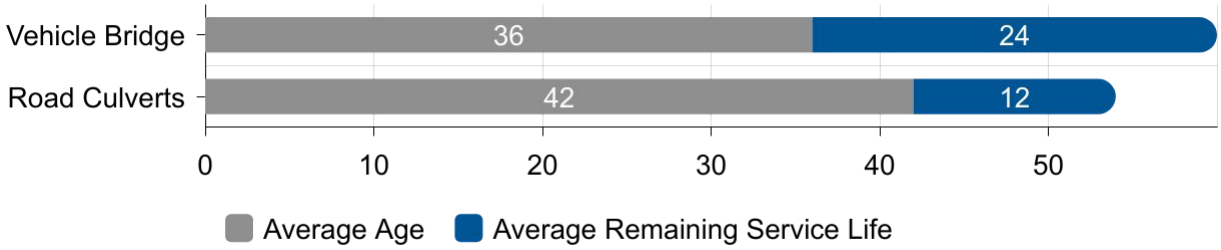
INVENTORY

Bridges Type	Count
Vehicle Bridges	13
Structural Culverts	18
Total	37

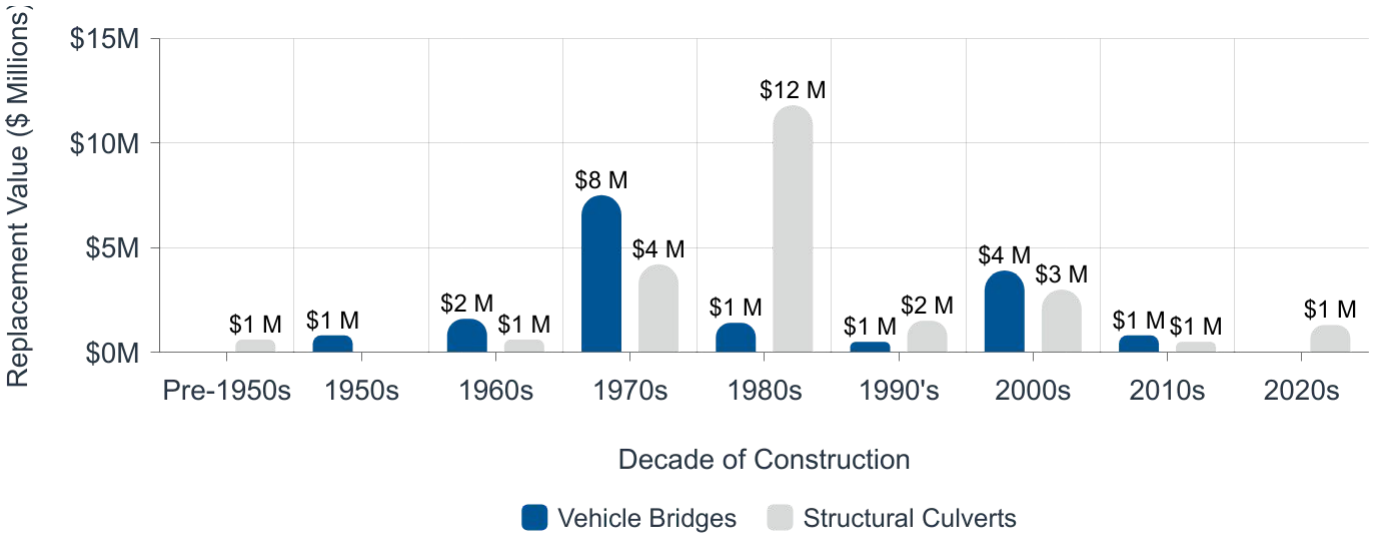
REPLACEMENT VALUE



AVERAGE AGE & REMAINING SERVICE LIFE



BRIDGE INVENTORY BY DECADE CONSTRUCTED



Bridges

STATE OF INFRASTRUCTURE

LEGEND

Very Good | Good | Fair | Approaching Replacement Need | Ready for Replacement

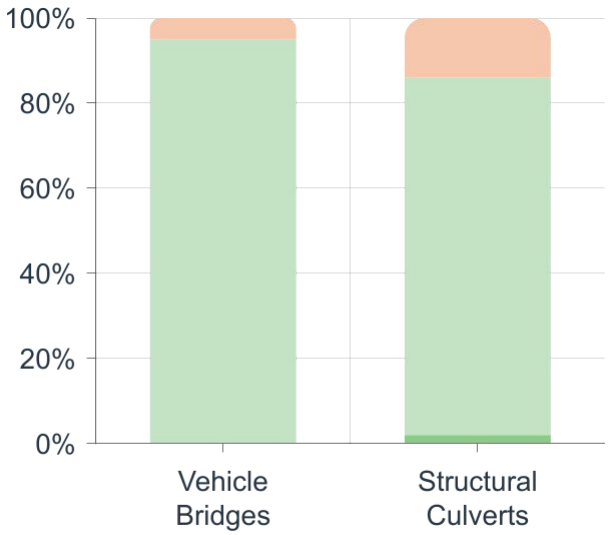
CONDITION CHANGES SINCE 2023

Assets moving in the ranges of very good, good, and fair from **90% to 90%***

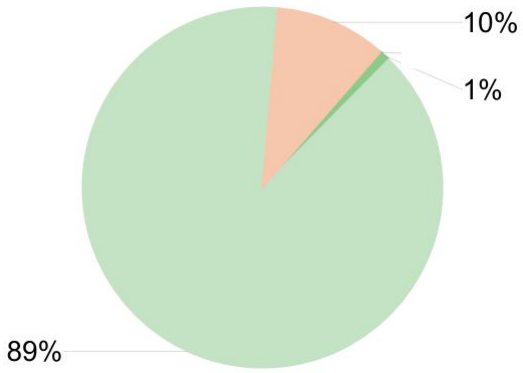
Asset moving in the ranges of approaching replacement need and ready for replacement from **10% to 10%***

*On average, no change in condition category.

CONDITION BREAKDOWN



CURRENT CONDITION



Note: Excludes Queen Street, replacement ongoing

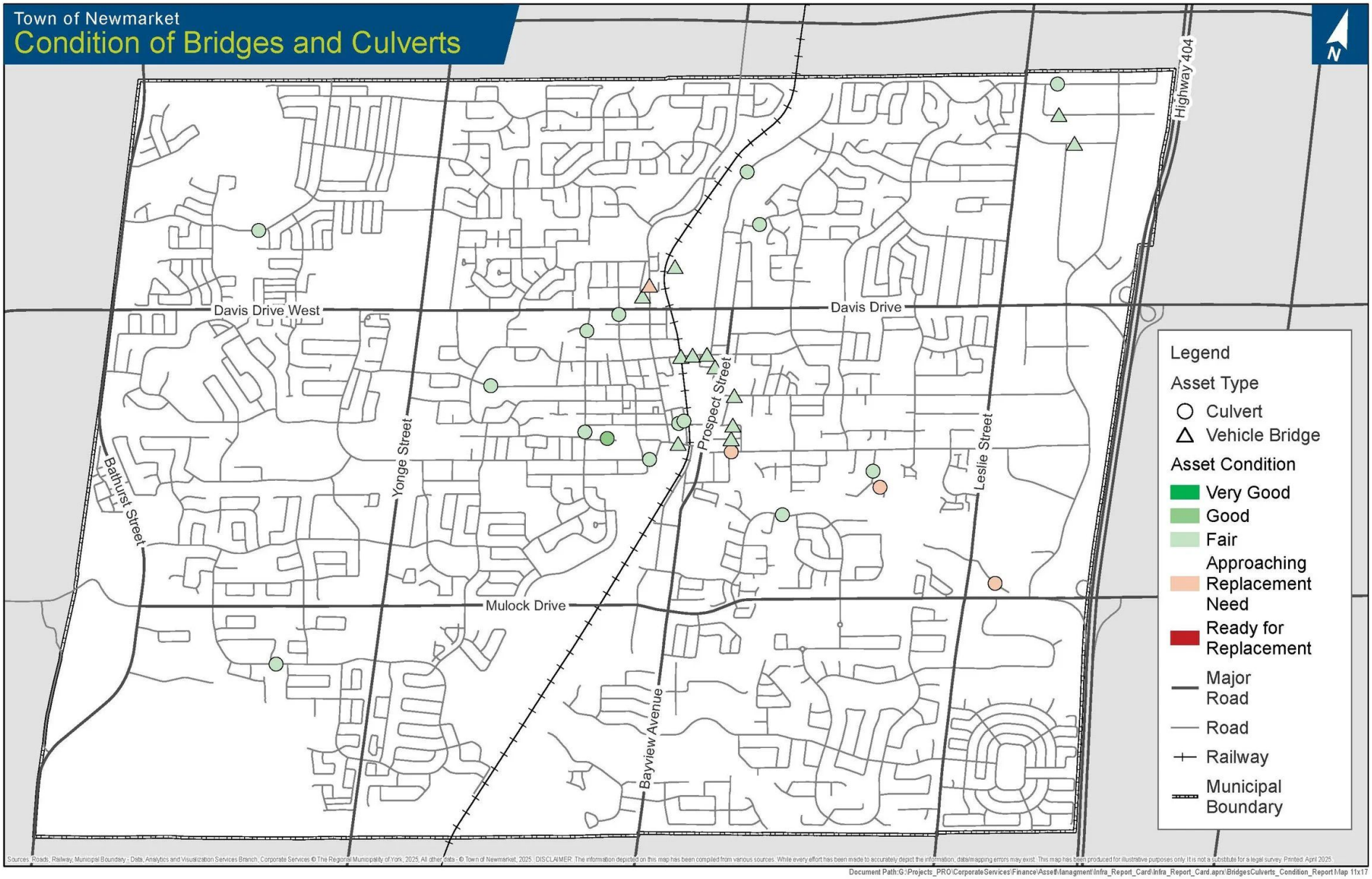
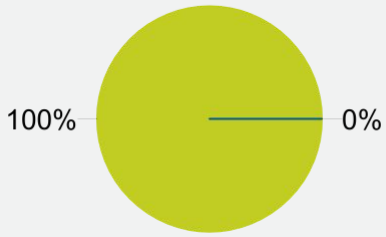


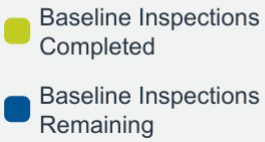
Figure 3 - Asset Scope and Condition Map

Condition Assessment Plan

Condition assessments increase knowledge of the assets, monitor performance, and refine financial projections. The Town currently uses a mix of age based and field condition assessment to determine asset condition.

Progress Towards Baseline Inspection Data





Age-Based Assessment:
Complete

Field-Based Assessment: 100% Complete (2021)
Next Assessment:
2025

Follow Up Condition Monitoring:
Every two years as provincially mandated.

04 Manage Service Delivery

Asset management is a way of doing business every day. It requires processes to balance the services provided, the risks associated and the cost.

Key takeaways:

- What services do we provide?
- What activities support service delivery?
- What are the risks of our services?

Manage Service Delivery

The Manage Service Delivery section focuses on how asset management balances trade-offs to deliver value. The expenses the Town incurs over the lifecycle of the asset are taken with the goal of ensuring residents and business continue to receive exceptional service from the Town.

Measuring Levels of Service

Levels of Service (LoS) are measured by the service outcomes, asset performance, and supporting activities. They act as guiding benchmarks that inform operations, influence decision-making, and support the effective functioning and safety of assets and service delivery.

Customer Levels of Service

This is the level of service statement the Town commits to providing the customers.

Technical Measure

This is the technical and quantifiable measure of the customer level of service statement. This includes levels of service required by the Province for public reporting under Ontario Regulation 588/17.

These measures provide a framework for monitoring performance, identifying areas for improvement, and ensuring that operational activities align with overall safety and functional requirements.

Levels of Service Alignment

The LoS measures are organized to create alignment between Town strategic objectives, a corporate goal for the service and the subsequent service criteria and technical/customer measures. The benefit of this approach is ensuring the broader goal and outcomes of a service can be monitored and addressed through specific measures and actions. The result of this process is shown on the following page.

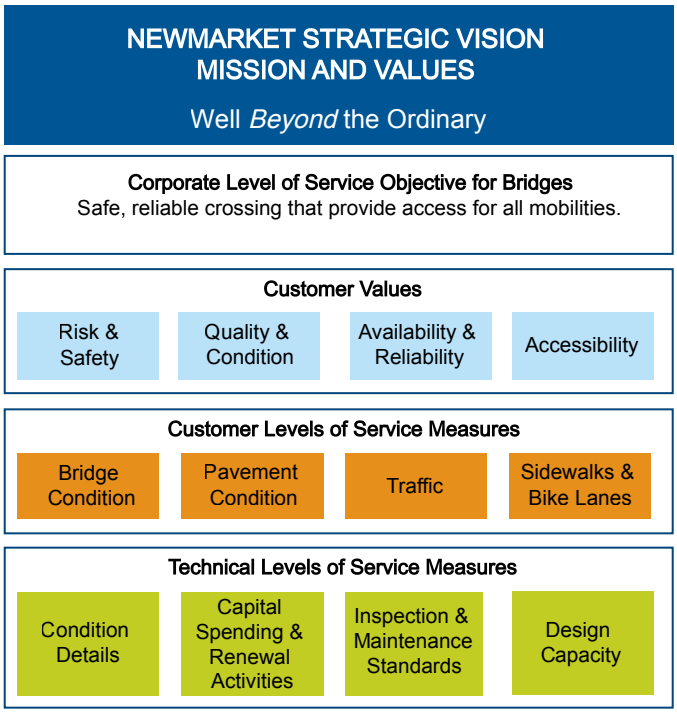


Figure 4 - Levels of Service Alignment

Performance and Results

Levels of service results are presented below using the metrics developed for the Bridges Asset Management Plan.

Customer LOS Statement	Technical LOS Measure	2023 Performance	Proposed 2034 Performance
Crossings are safe and reliable.	Average pavement condition of drivable bridges and structural culverts (PCI / 100).	64	58
	Percentage of existing assets not due for replacement	100%	No change
	For bridges in the municipality, the average bridge condition index value (OSIM method / 100).	73	68
	Percentage of bridges in the municipality with loading or dimensional restrictions.	3%	No change
	For structural culverts in the municipality, the average bridge condition index value (OSIM method / 100).	74	72
	Percentage of bridges inspected within last 2 years.	100%	No change

Table 1 - Current and Proposed Performance and Results

The Town is not proposing any operational service levels changes at this time as current service levels are appropriate as experienced by the community. Any changes in numbers shown in the proposed performance table are due to aging assets (which lowers condition) or asset rehabilitation (which improves condition). Any potential future adjustments will be assessed based on operational needs, stakeholder feedback, and emerging industry best practices. Performance changes will be documented in future annual update plans.

Legislative Requirements

The Town currently operates within several regulatory requirements. As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

CURRENT LEGISLATIVE REQUIREMENTS

The Town currently operates within several regulatory requirements. Regulations include:

- Standards for Bridges and amendments – Ontario Regulation 104/97
- Canadian Highway Bridge Design Code

As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

NEW UPCOMING LEGISLATIVE REQUIREMENTS

The review of legislative requirements during the development of this plan found no major upcoming legislative requirements that would impact minimum levels of service requirements for the operations and maintenance of Bridges assets.

Lifecycle Activities

This table outlines business practices employed by the Town to manage assets and services throughout their lifecycle.

Lifecycle Phase	Lifecycle Activity	Crossings are safe and reliable.
Acquire and Commission	Commission new bridges	✓
Operations, Maintenance, and Inspections	Biennial OSIM inspections	✓
	Special inspections, structural monitoring, testing.	✓
	Spring non-structural safety inspections (e.g. debris, potholes)	✓
	Joint and gutter cleaning	✓
	Bridge washing	✓
	Maintain bearing shelf and shelf debris removal.	✓
	Zinc application	✓
	Channel cleaning and vegetation management	✓
	Reinstate rip-rap of channels, piers, and slope protection.	✓
	Temporary closures.	✓
Renewal and Rehabilitation	Reset and/or replace bearings & joints	✓
	Waterproof entire bridge	✓
	Minor / major concrete repairs and patch repairs	✓
	Crack injection	✓
	Partial substructure or deck replacement, strengthening	✓
	Upgrades, strengthening, and improvements	✓
	Culvert repairs: inverts, headwalls, structural lining, concrete repairs, barrel repairs	✓
	Footbridge repairs: Painting, sand blasting, pile replacement, timber replacements, patch painting	✓
Replacement	Replace bridge, culvert, footbridge	✓

Table 2 - Lifecycle Activities

Risk

Risk can be assessed at multiple levels. This plan will evaluate risk from two key perspectives: service-level risk, which pertains to potential impacts that may disrupt the delivery of services to the public and community, and asset-level risk, which focuses on the exposure of the assets themselves.

The chart below illustrates asset risk. The risk assessment was conducted on a risk assessment matrix based on likelihood of failure and the consequence of failure.

BRIDGES RISK PROFILE

Likelihood of Failure

- Bridge Condition Index

Consequences of Failure

- Bridge deck size
- Road class
- Traffic count
- Crossing type (railroads and watercourses)

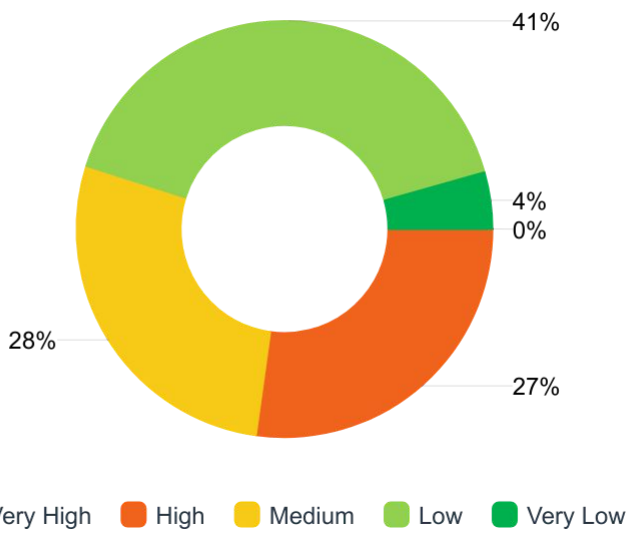


Figure 5 - Asset Risk Profile

05 Future Ready

What was once a small but thriving Town, today Newmarket is a desirable and affordable community. While the future is bright, trends like increasing service expectations, urbanization, and climate change are challenging the status quo. The future will change how the Town manages assets.

Key takeaways:

- What increases in asset-related services are expected?
- How will climate change impact assets?

Future Ready

Ongoing and future trends will impact the way the Town delivers its services and manages its assets. Proactively identifying these trends and pressures allows the Town to account for risk and take advantage of opportunities. Using planning to maintain a future outlook allows for a balance between maintaining present services while managing growth.

The Future Ready section will discuss the following:

Growth

An outlook of forecasted growth in the asset portfolio.

Climate Change

Vulnerabilities and adaption and mitigation approaches to climate change, specifically flooding. Results of a flood risk assessment are provided as flooding is the first of several types of climate considerations to be applied in the future.

Growth Planning in Newmarket & Population

The Town of Newmarket is expected to grow from its current population of approximately 90,700 residents to a future population of 118,500 by 2051 according to provincial and regional plans. At the same time, the employment base is projected to grow from 45,000 to 58,100 jobs.

		2021	2031	2041	2051
Newmarket	Population	90,700	98,900	107,200	118,500
	Employment	47,500	50,600	53,900	58,100

Table 3 - Newmarket Growth in Population and Employment

To support this population, more assets and new types of assets may be required to provide asset-related services and to maintain service levels. The asset management plans reflect planning efforts to coordinate assets and population growth in alignment with the 2019-2028 Development Charges Background Study.

Identified Growth

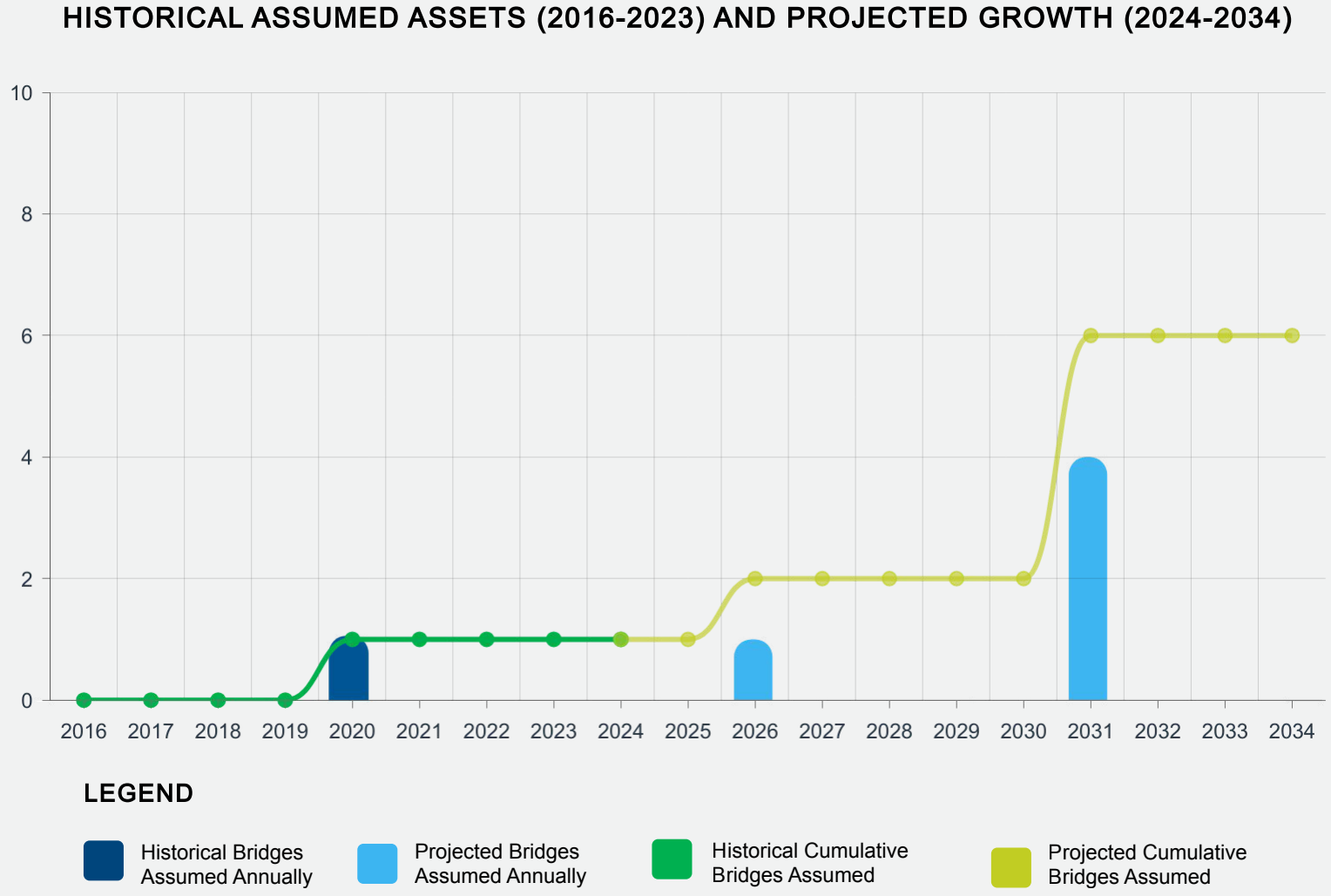


Figure 6 - Historical Assumption and Projected Growth

The following table summarizes asset increases in the asset portfolio. Information on growth values and impacts will be discussed in the Financial Context section.

Years	Bridges	Culverts
2024	-	-
2025	-	-
2026	-	1
2027	-	-
2028	-	-
2029	-	-
2030	-	-
2031	4	-
2032	-	-
2033	-	-
2034	-	-
Total	4	1

Table 4 - Asset Growth Forecast

Climate Change Assessment

To prepare for climate change impacts, the Town engaged with the Ontario Climate Consortium (OCC) to conduct a corporate-wide flood risk resilience assessment of Town-owned infrastructure. The study used an indicator-based tool to evaluate flood risk based on:

1. **Hazard** – Geospatial factors influencing riverine, overland, and groundwater flooding.
2. **Vulnerability** – Operational, social, economic, and environmental factors affecting an asset's susceptibility to flooding.

BRIDGES FLOOD RISK ASSESSMENT

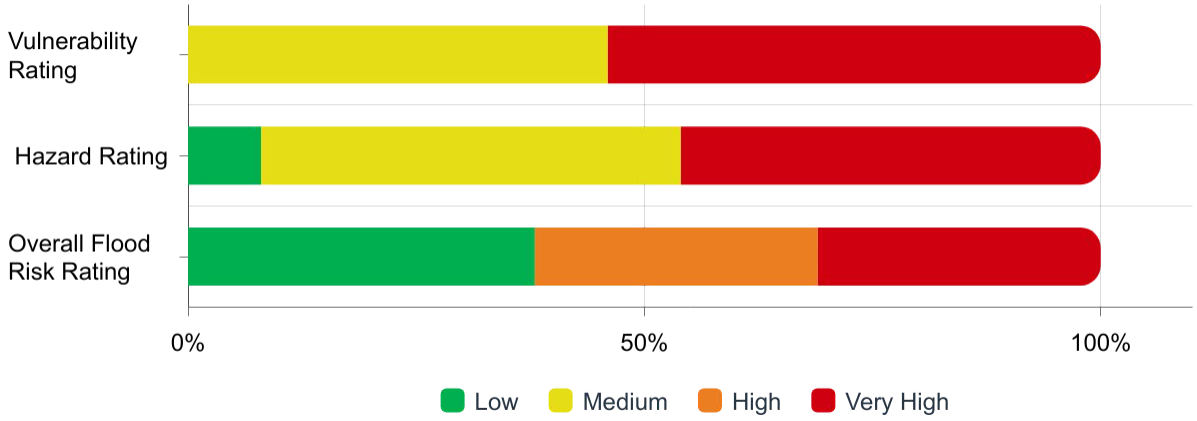


Figure 7A - Flood Risk Assessment Results - Bridges

STRUCTURAL CULVERTS FLOOD RISK ASSESSMENT

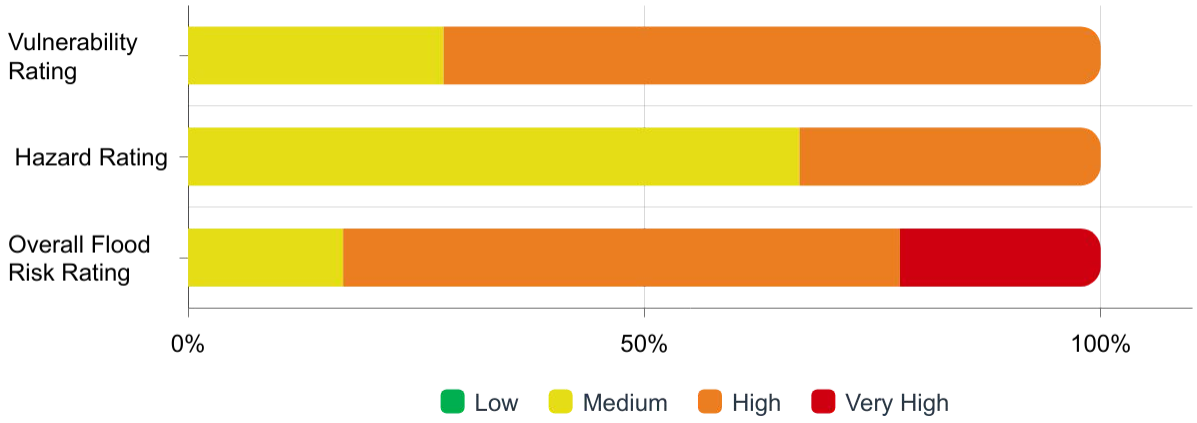


Figure 7B - Flood Risk Assessment Results - Structural Culverts

06 Financial Context

The Financial Context section brings together the data and analysis from previous sections to provide a clear view of the Town's financial situation regarding its assets. It reviews historical and current practices and future outlook based on anticipated growth. Three scenarios are introduced here to explore different levels of service based on asset condition and funding levels.

Key takeaways:

- What are the Town's current financial practices for asset management?
- What operating budget supports our assets?
- What is the long-term financial impact of growth, based on the total lifecycle of the assets?

Financial Strategy

The sustainability of Town infrastructure depends on effective management and ensuring the optimal use of available funds. The Town of Newmarket has developed a Financial Strategy to evaluate the relationship between current investment levels, service outcomes and risk of service failures. The financing strategy strengthens the budget process by reinforcing a long-term perspective of service levels. The Town modelled and prepared an analysis of three scenarios over a 10-year time horizon to determine the Proposed Levels of Service.

Capital Financial Strategy

The history of the Town's financial contributions and capital spending practices were used to inform the financial analysis conducted. This historical context provides valuable insights into the Town's fiscal health, helping to inform future financial planning and decision-making processes.

Year	Bridges Reserve Contribution	Reserve Contribution as a Percentage of 2023 Replacement Value
2018	$374,024	0.93%
2019	$99,533	0.25%
2020	$171,879	0.43%
2021	$261,871	0.65%
2022	$139,606	0.35%
2023	$125,969	0.31%

Table 5 - Historical Reserve Contributions

Year	Bridges Capital Spending on Existing Assets	Capital Spending as a Percentage of 2023 Replacement Value
2018	$344,305	0.86%
2019	$1,102,012	2.74%
2020	$366,620	0.91%
2021	$0	0.00%
2022	$170,342	0.42%
2023	$910,778	2.26%

Table 6 - Historical Capital Spending

Estimated Future Reserve Contributions

The Town's reserve contributions are geared towards long-term financial planning and to balance funding with future renewal costs. These projections will be reviewed each year through internal processes and Council-approved budgets. The Town has proposed a 1.5% annual tax increase, subject to the annual budget process, to help fund future capital asset replacements. It is assumed to continue for the next 10 years for all tax-supported assets. Funding increases for service areas would be proportional, with additional factors from the Reserve & Reserve Fund Review taken into account. The forecasted reserve contributions are based on the current population, tax collection rates, and expected population growth, along with the economic activity outlined in the Future Ready section.

Year	Bridges Future Reserve Contributions	Canada Community Building Fund Allocation	Total
2025	$ 187,452	$ 912,548	$ 1,100,000
2026	$ 222,015	$ 877,985	$ 1,100,000
2027	$ 257,624	$ 842,376	$ 1,100,000
2028	$ 293,754	$ 806,246	$ 1,100,000
2029	$ 330,413	$ 769,587	$ 1,100,000
2030	$ 367,611	$ 732,389	$ 1,100,000
2031	$ 406,681	$ 693,319	$ 1,100,000
2032	$ 446,338	$ 653,662	$ 1,100,000
2033	$ 486,590	$ 613,410	$ 1,100,000
2034	$ 527,446	$ 572,554	$ 1,100,000

Table 7 - Estimated Future Reserve Contributions

Bridges Scenario Methodology

To forecast capital investment need, consolidation of inventory, replacement cost, condition, levels of service, risk, and lifecycle activities as shown throughout the AMP was completed.

Three scenarios were created to answer key questions about current budget, future requirements, sustainability and proposed levels of service. Analysis is carried out in Decision Optimization Tool, the Town's risk-based investment planning software. The scope of the analysis is the capital cost of replacing existing assets. During the annual budget process, these estimates are reviewed and refined with additional cost drivers for staff delivery capacity, operational impacts, and detailed designs.

Scenario	Description of Scenario Constraints and Objectives
1 – Current Budget	The purpose of the current budget scenario is to calculate the level of service achievable with current funding. Scenario parameters are: • Maximize network performance for limited funds. • Based on current funding as of 2025.
2 –Needs Based	The purpose of the needs-based scenario is to calculate the true cost of maintaining the full asset inventory at current service levels for comparison with current practice. Scenario parameters are: • Limit the number of very poor assets to 5%. • Minimize the cost of maintaining asset portfolio but no budget constraint. • Maintain current levels of services.
3 – Proposed Levels of Service	Proposed Levels of Service documents the Town's financial strategy to increase the capital funding of asset replacements in recognition of the prevailing trends of aging assets. This is achieved through alignment with the Town's Fiscal Strategy and the Reserve Fund Review, which identifies a path to achieving sustainable asset funding levels through a long-term strategy. This strategy will be further reviewed in the Proposed Level of Service section. Scenario parameters are: • Maximize network performance for limited funds. • Employ risk-based prioritizations within the investment planning software to minimize risk. • Increase asset replacement funding from 2025 levels using the strategies identified in the Reserve Fund Review. Proposed Levels of Service are the basis for the 2025 Asset Management Plans. In the cases of bridges, Scenario 3 - Proposed Levels of Service and Scenario 1 – Current Budget are approximately the same. By aligning to the levels of the 2023 OSIM report recommendations, bridges will be funded to at levels that minimize risk.

Table 8 - Scenario Methodology

Bridges Scenario Results

The figures on the following pages illustrate how the cost of renewals for different service targets and the condition of Bridges are forecasted to change over time under all three scenarios.

SCENARIO 1 | CURRENT BUDGET

- Calculate the level of service achievable with current funding.
- Maximize network performance for limited funds.
- Based on current funding as of 2025.

CONDITION FORECAST

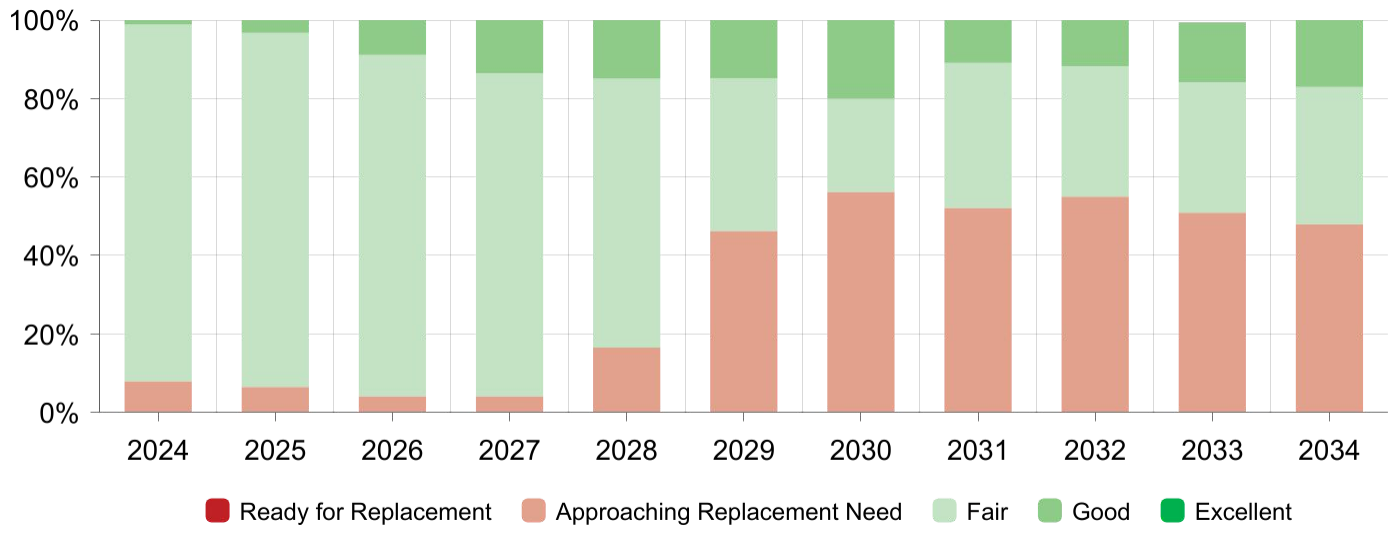


Figure 8 - Forecasted Condition over 10 Years - Current Budget

CAPITAL EXPENDITURE

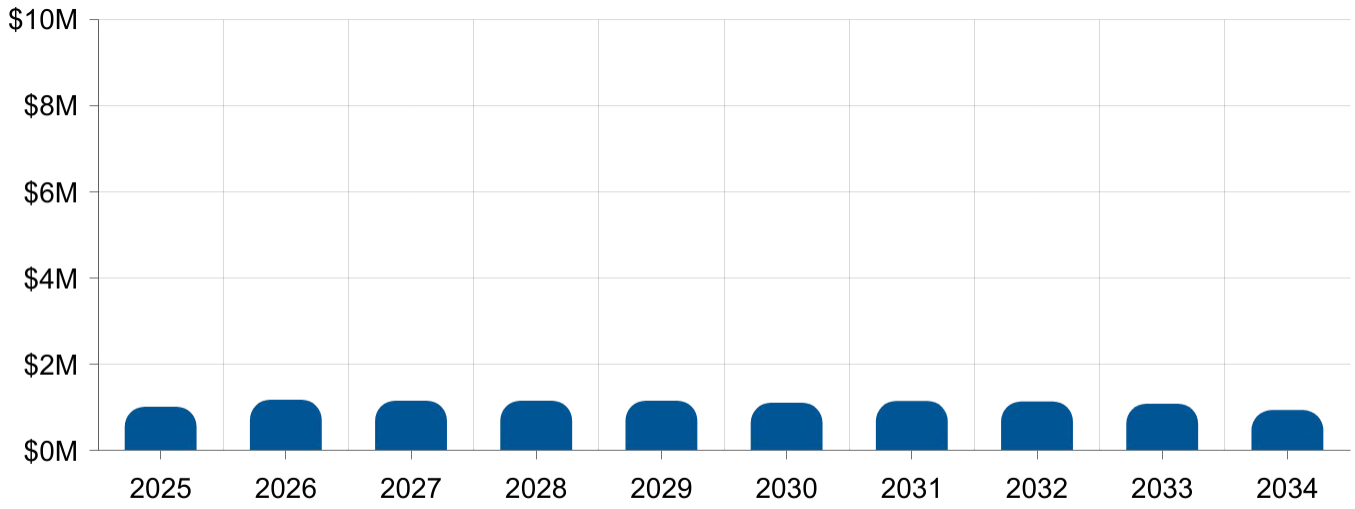


Figure 9 - Forecasted Capital Expenditure over 10 Years - Current Budget

SCENARIO 2 | NEEDS BASED

- Calculate the true cost of maintaining the full asset inventory
- Limit the number of Ready for Replacement assets to 5%
- Minimize the cost of maintaining asset portfolio, but no budget constraint

CONDITION FORECAST

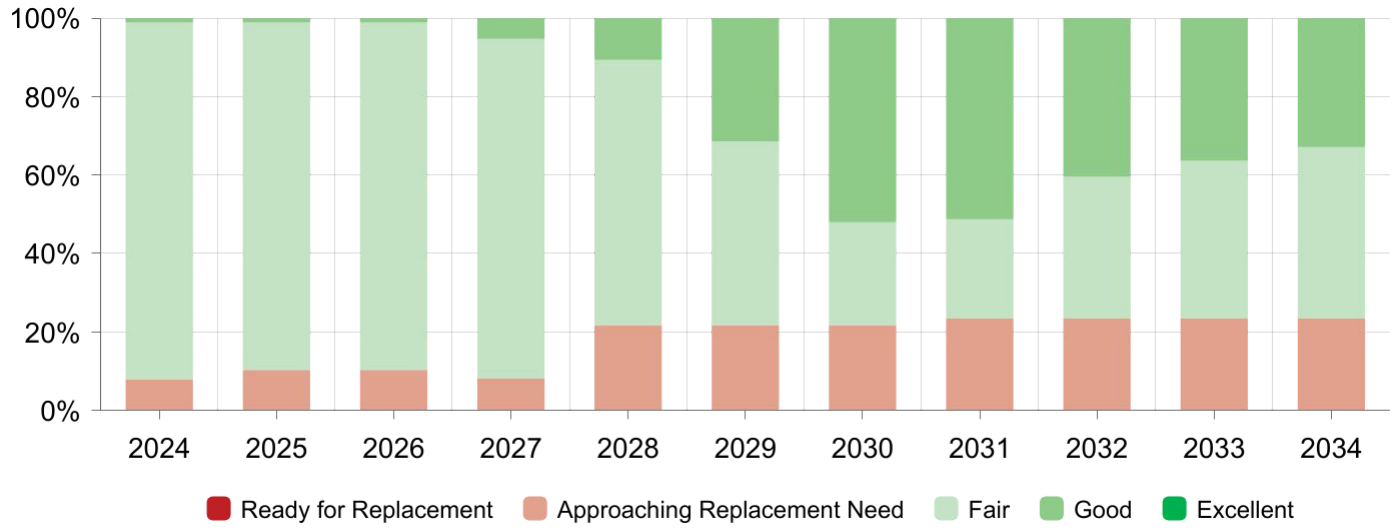


Figure 10 - Forecasted Condition over 10 Years - Needs Based Budget

CAPITAL EXPENDITURE

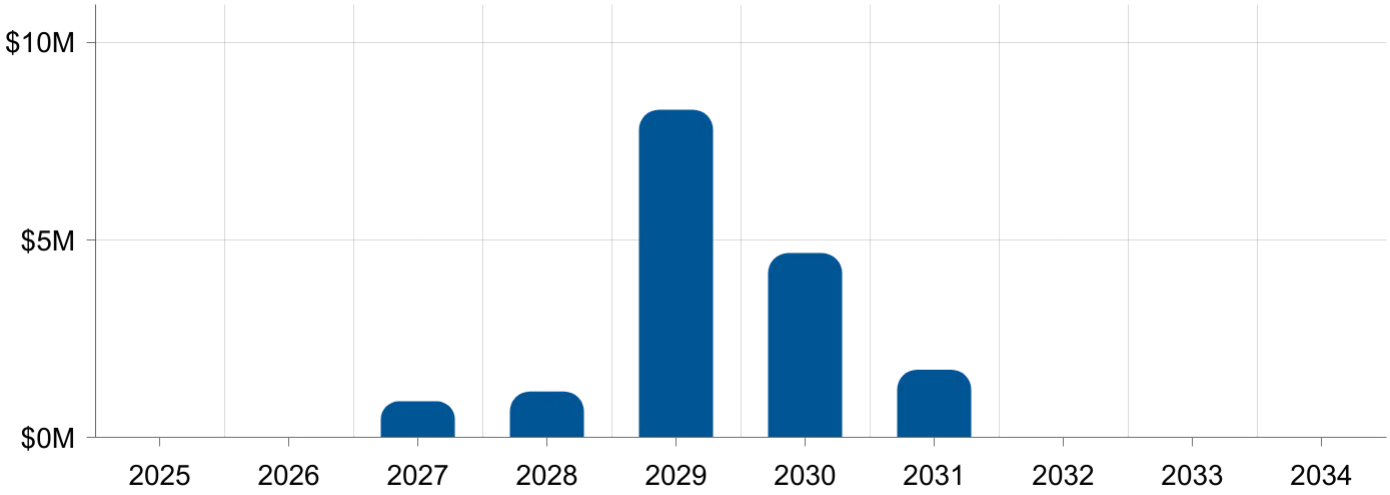


Figure 11 - Forecasted Capital Expenditure over 10 Years - Needs Based Budget

SCENARIO 3 | PROPOSED LOS

- Maximize network performance for limited funds.
- Employ risk-based prioritizations to minimize risk.
- Increase asset replacement funding as identified in the Reserve Fund Review.

CONDITION FORECAST

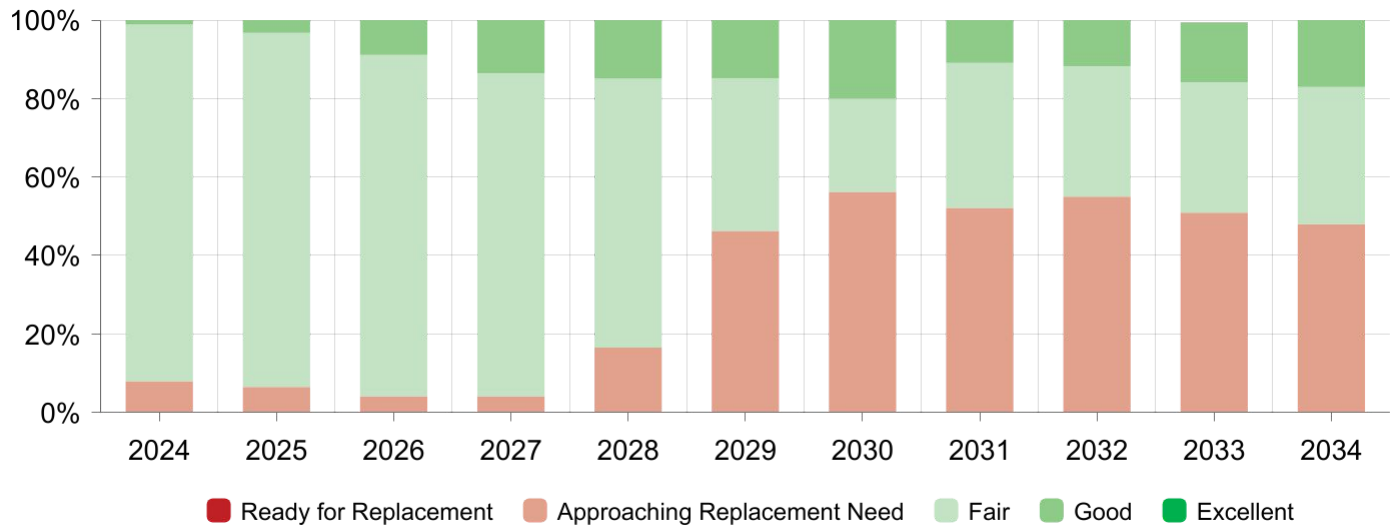


Figure 12 - Forecasted Condition over 10 Years - Proposed LOS Budget

CAPITAL EXPENDITURE

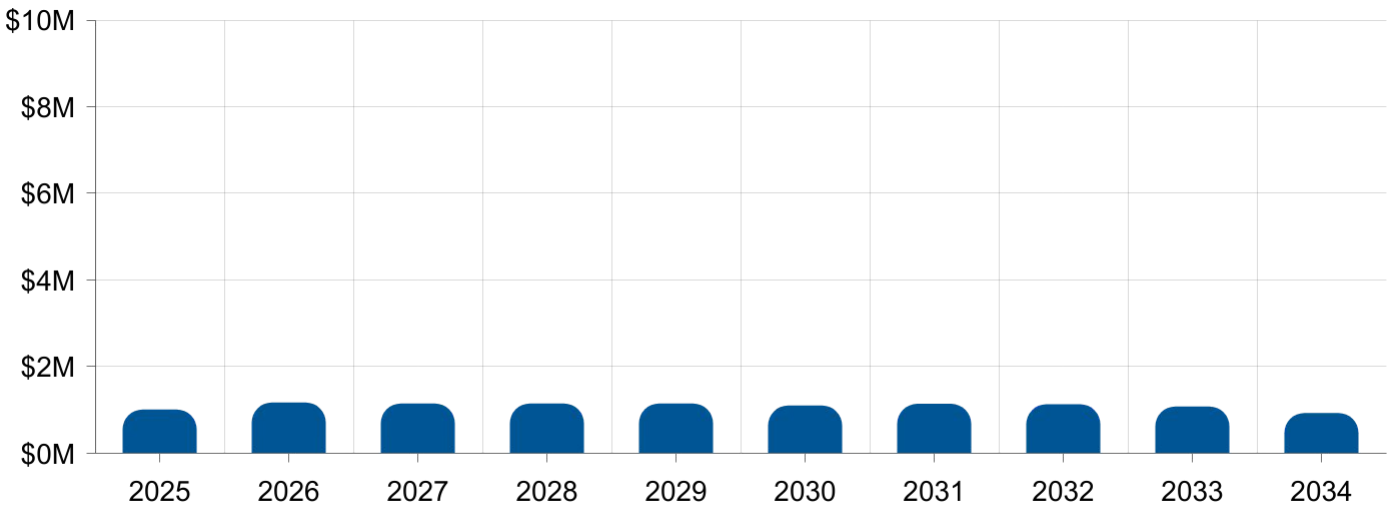


Figure 13 - Forecasted Capital Expenditure over 10 Years - Proposed LOS Budget

Operations & Maintenance

Using the Town's framework for lifecycle activities, the Town's operations and maintenance budget reflects the cost of delivering asset-related services for the activities occurring after acquisition and outside of rehabilitation, replacement, and decommissioning. These are listed in Manage Service Delivery.

The Town is not proposing levels of service changes to its operational lifecycle delivery, as identified in the performance results shown in Levels of Service section and discussed further in Proposed Levels of Service.

$176K

Annual O&M cost for Bridges assets

Financial Impacts of Growth

When a new asset is commissioned, it begins a lifecycle of service and costs. The total value of growth in assets by replacement value identified in Future Ready is as follows. This asset management value may vary from other estimates which consider local factors, developer agreements, or staff resources needed to support growth.

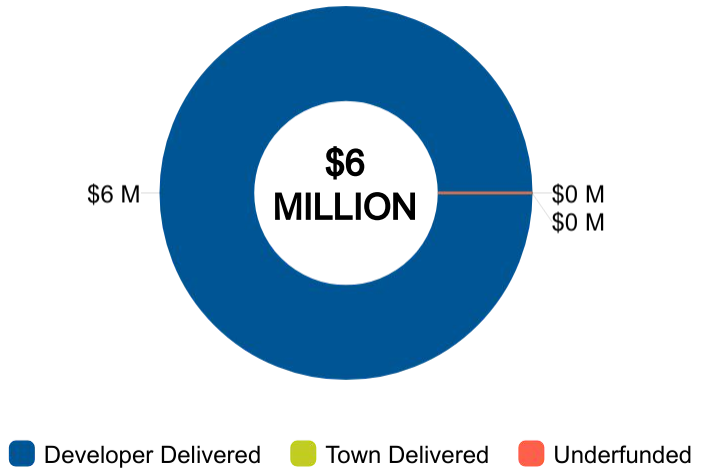


Figure 14 - Total Value of Growth by Funding Source

While providing services, new assets also requires operations, maintenance, and eventual replacement. Acquiring an asset means anticipating future costs, which is essential for financial planning and understanding the total cost of ownership. To reflect this, the Financial Impact of Growth depicts two types of cost: annual O&M cost and reserve fund contribution.

Annual Operating Impact

The annual operating impact reflects the cost of maintaining assets at current service levels, including inspections, cleaning, and energy use. These costs are estimated by scaling current service levels to match growth and are measured in operating dollars per year. Using the asset quantities forecasted in Future Ready, the increases in operations and maintenance costs to maintain current service levels over the next 10 years is expected to be as shown below. This forecast will be reviewed and refined through the annual budget process as projects are scoped and operational needs are confirmed.

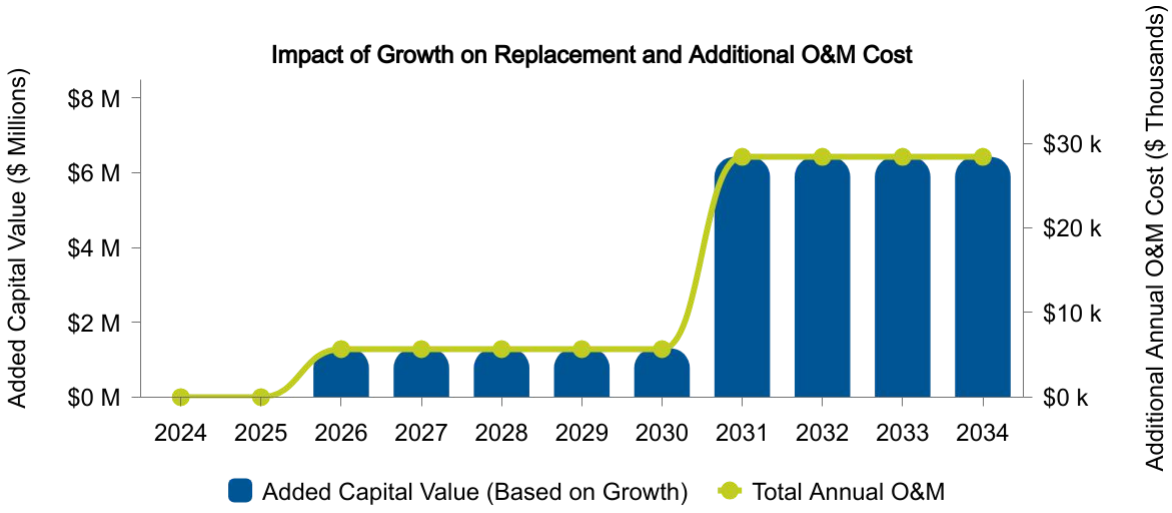


Figure 15 - Impact of Growth on Replacement Cost and Additional Annual O&M Cost

Financial Impacts of Growth - Continued

Reserve Fund Contribution for Sustainable Replacements

Annual reserve contributions ensure funds are available to replace assets at the end of their useful life by spreading costs evenly over time. This prevents a backlog of future replacements and supports asset sustainability. The contribution is calculated by dividing total replacement costs by average asset lifespan. It excludes other capital costs like upgrades, or staff resources to supported added capital delivery. It assumes based on the Town's Reserve Fund Review that the Town can achieve this ratio of funding for all of its assets over time. The graph below shows the increased annual contributions required to sustain future capital replacements.

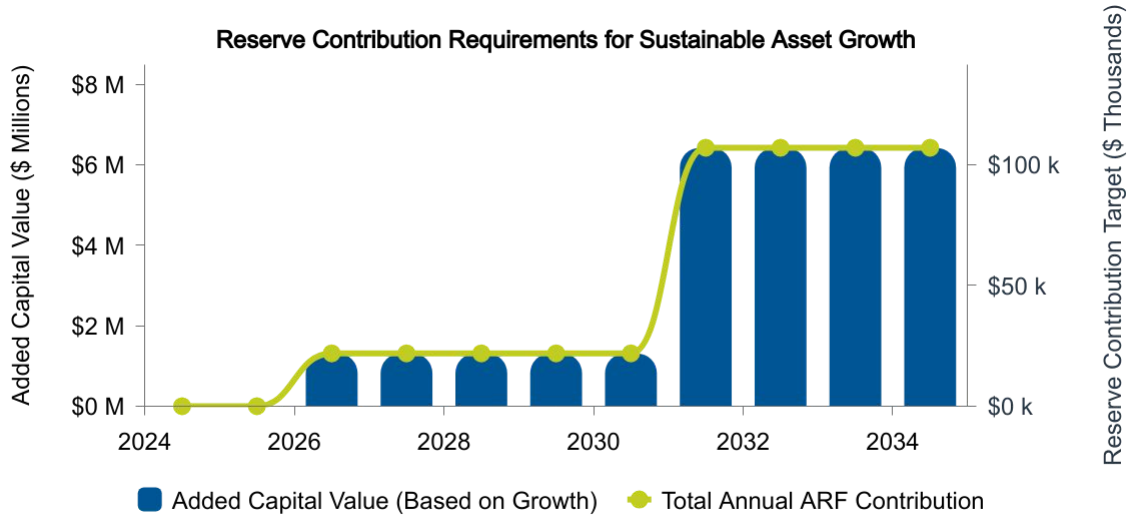


Figure 16 - Reserve Contribution Requirements for Sustainable Asset Growth

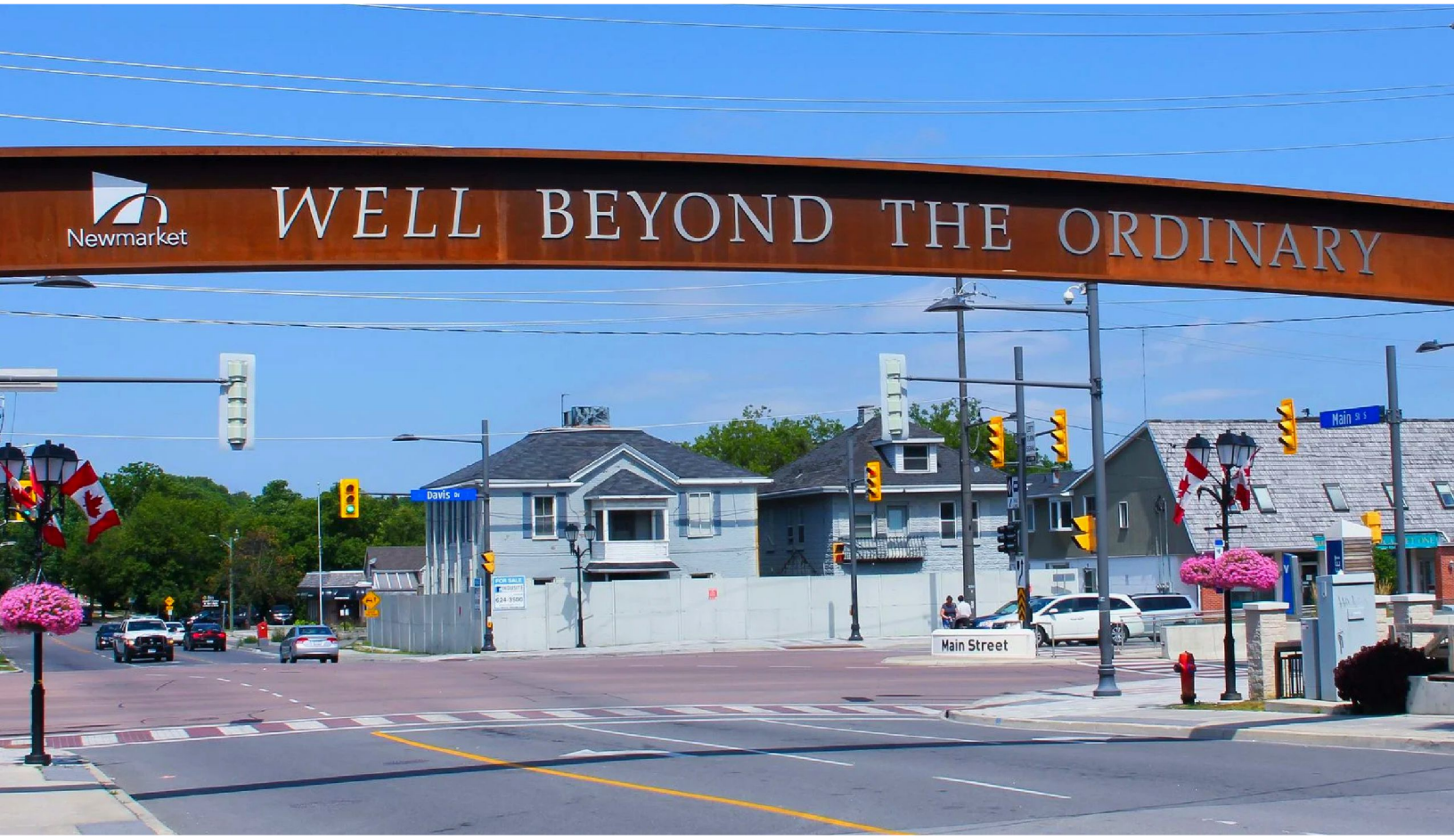
Total Cost of Growth

Accounting for both operational and maintenance costs and reserve contribution requirements, the total estimated annual cost of growth is summarized in the table below. The funding of the growth impacts is discussed further in Proposed Levels of Service.

Financial Impact by Year	Growth in Assets (Replacement Value)	Annual Total O&M Costs	Annual Reserve Contribution Target	Total Annual Financial Impact of Growth (Cumulative)
2024	$0	$0	$0	$0
2025	$0	$0	$0	$0
2026	$1,311,183	$5,682	$21,853	$27,535
2027	$0	$0	$0	$27,535
2028	$0	$0	$0	$27,535
2029	$0	$0	$0	$27,535
2030	$0	$0	$0	$27,535
2031	$5,111,051	$22,726	$85,184	$135,445
2032	$0	$0	$0	$135,445
2033	$0	$0	$0	$135,445
2034	$0	$0	$0	$135,445

Table 9 - Total Cost of Growth Summary over 10 Years

07 Proposed Levels of Service



Proposed Levels of Service forecasts the projected service levels the Town will deliver through its assets using a financial strategy in alignment with O.Reg. 588/17. The Proposed Levels of Service forms the basis for 10-year forecasting, annual budget recommendations, risk management, and performance monitoring. It incorporates information from all previous sections of the asset management plans.

Key takeaways:

- What is the proposed level of service based on a holistic view of the combined factors (cost, level of service, risk)?
- How is the proposed level of service achieved?
- What is the proposed level of service performance forecast?
- What is the financial summary of the proposed level of service?

Proposed Levels of Service

Concluding the Asset Management Plans in accordance with O.Reg. 588/17, Proposed Levels of Service can be summarized based on financial analysis and the information contained throughout the plans.

Levels of Service Achieved Through Capital Renewals and Replacements

The Proposed Levels of Service Scenario including its funding and asset conditions are the Town's selected plan for funding renewals and replacement. It considers risk associated with aging assets against the Town's goals of sustainably providing quality asset-related services at a level that is affordable and appropriate for the community.

Level of Service Option	Rationale	Funding Achieved Over 10 Years	Funding Gap
Scenario 1 Current Budget	Current Budget reflects that the Town currently provides strong levels of funding for maintaining its assets, but what was sufficient for historical levels of renewal will not be appropriate going forward as assets continue to age. The decrease in service levels over 10 years are not a rate that is sustainable or appropriate for the community and would reflect an increase in risk.	$11.01 M	($5.72 M)
Scenario 2 Needs Based Budget	Needs Based expands on Scenario 1 by showing the financial needs associated with maintaining an aging asset portfolio. This shows that the true cost of maintaining the Town's assets is more costly than what the Town currently provides. When combined with a risk-based approach, this was used to inform Scenario #3 Proposed Levels of Service.	$16.73 M	N/A
Scenario 3 Proposed Levels of Service	Proposed Levels of Service aligns with the Town's overarching financial strategy, balancing levels of service, risk, and affordability. It shows some potential decrease in service levels in the short term at a rate that is acceptable when balanced against affordability concerns and risk assessments. The Fiscal Strategy and Reserve Fund Review demonstrates that service levels can be achieved over a longer term. The financial strategies include rate-supported financial plans, increased tax-supported contributions to asset management funds, reserve management and investments, assessment growth, use of provincial and federal grants, interfund-borrowing, annual budgeting, and where allowable a role for external debt funding of capital projects. In the cases of bridges, Scenario 3 - Proposed Levels of Service and Scenario 1 – Current Budget are approximately the same. By aligning to the levels of the 2023 OSIM report recommendations, bridges will be funded to at levels that minimize risk.	$11.01 M	($5.72 M)

Table 10 - Levels of Service Options Funding Gap

Levels of Service Achieved Through Operations and Maintenance

The Town is not proposing any material changes or enhancements to the lifecycle activities and operational service levels. This is because:

- In accordance with the Municipal Act and Town municipal funding practices, the operating budget is considered a sustainable source of funding operations and maintenance through rate and tax-supported annual budgets.
- The current service levels are affordable and appropriate as they are already experienced by the community.
- Maintaining current service levels allows the Town to acquire asset expansions associated with population growth using assessment growth, without further financial impacts. This is part of the Town's Fiscal Strategy.
- The assessed risk of the condition of the assets based on the funding of renewals is within the Town's operational capacity to mitigate potential risks.

Cost of Current Levels of Service	Proposed Levels of Service	Shortfall
$176,130.00	No Change	$0

Table 11 - Proposed Levels of Service O&M Funding Shortfall

Levels of Service Maintained With Growth

The expected growth in population demonstrates the need to expand and intensify assets used to maintain service levels. The forecasts of asset growth show increases to the asset portfolio in line with population increases. The Town funds the acquisition, operations and future replacement of growth assets to maintain strong services to the community. These cost estimates do not include the human resources of delivering growth assets.

Value of Assets to Support Proposed Levels of Service through Growth	Value of Developer Delivered Assets	Value of Town Delivered Assets	Shortfall
$6,422,234	$6,422,234	$0	$0

Table 12 - Growth Capital Funding Shortfall

Once assets are operational, it was shown there is a new operating cost to maintain them. To achieve the Proposed Level of Service for new assets as well as existing assets, the Town incorporates growth principles into its budget process by reserving the use of assessment growth to fund the operations of new assets. This ensures that growth in population, growth in assets, assessment growth, and service levels achieve parity as intended by the Development Charges Act.

Total Operating Impact of Growth for Proposed Levels of Service	Forecasted Operating Budget Allocated Through Assessment Growth	Shortfall
$28,408	$28,408	$0

Table 13 - Growth O&M Funding Shortfall

Service Risk

After considering the trade-offs between service levels and affordability, risk was considered to confirm service levels are appropriate. Risks were identified and mitigated to levels that are appropriate for the community and the Town's operations and maintenance program. Risks associated with the Proposed Levels of Service are:

Service Risk	Mitigation Measures	Residual Risk
Load restrictions associated with bridges approaching their need for replacement.	Biannual OSIM inspections and recommendations. Proactive maintenance. Traffic planning.	Management of bridges will be subject to engineering recommendations made by third party engineers who assess the assets.
Detours associated with repair work.	Biannual OSIM inspections. Prioritizations and capital planning. Traffic planning.	Bridge repair work will be staged to minimize traffic impacts but detours may be required while bridges are being repaired.
Aging infrastructure increasing maintenance costs.	Proactive maintenance programs like deck sealing to keep assets in good to fair condition for as long as possible.	Monitor for increasing maintenance costs associated with backlog of capital.
Watercourse impediments from bridge-related assets.	Monitor known locations of past flooding during weather events. Seasonal inspections. Vegetation management. Repairs to remove any blockages.	Watercourse impacts are unlikely but could arise if undetected.

Table 14 - Service Risk and Mitigation Measures

Proposed Levels of Service Performance

Proposed Levels of Service have been considered across the asset lifecycle, financially costed, and analyzed for risk. To quantify service levels, the performance measures identified by Managed Service Delivery can be projected out to 2034. These service levels will be monitored and reviewed annually. The Town's proposed levels of service measures are:

Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Bridges BCI	72	72	71	70	71	73	72	71	70	68
Culverts BCI	73	72	73	72	71	70	71	72	72	72
Overall BCI	72	72	72	72	71	71	71	71	71	71
Average pavement condition of drivable bridges (PCI / 100).	59	58	57	58	59	60	57	57	55	58
Percentage of existing assets not due for replacement	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Percentage of bridges in the municipality with loading or dimensional restrictions.										N/C
Percentage of bridges inspected within last 2 years.										N/C

Table 15 - Proposed Levels of Service Performance

N/C - No change

Financial Summary

Throughout the Proposed Levels of Service process, the Town defined several financial strategies to achieve its proposed levels of service. These included:

- Increasing asset renewal funding through a wide range of reserve management methods focused on larger contributions, balancing risk and affordability.
- Planning asset growth in-line with population growth, and including development charges and assessment growth as part of asset financial planning.
- Maintaining operations and maintenance funding at current levels to support consistent annual lifecycle activities.
- Integrating asset management planning with the annual budget process so initial estimates and recommendations can be refined to incorporate detailed designs, capital delivery capacity, and operations and maintenance impacts of changes in assets.

When each analysis is combined, the total cost of the asset lifecycle over the next 10 years can be summarized as follows:

Financial Impact by Year	Existing Assets			Growth Assets		
	Base Operating Costs	Proposed Replacement Capital Spending	Cumulative Capital Shortfall	One-Time Capital for Growth	Annual Operating Impacts of Growth	Annual Reserve Contributions for Growth
2025	$176,130	$1,008,249	$0	$0	$0	$0
2026	$176,130	$1,166,617	$0	$1,311,183	$5,682	$21,853
2027	$176,130	$1,146,660	$0	$0	$5,682	$21,853
2028	$176,130	$1,153,259	$0	$0	$5,682	$21,853
2029	$176,130	$1,153,827	($4,730,401)	$0	$5,682	$21,853
2030	$176,130	$1,096,848	($8,293,777)	$0	$5,682	$21,853
2031	$176,130	$1,143,645	($8,863,010)	$5,111,051	$28,408	$107,037
2032	$176,130	$1,127,365	($7,735,645)	$0	$28,408	$107,037
2033	$176,130	$1,082,786	($6,652,859)	$0	$28,408	$107,037
2034	$176,130	$930,590	($5,722,269)	$0	$28,408	$107,037

Table 16 - Total Cost of Asset Lifecycle over 10 Years

Managing Shortfalls

It is understood that an infrastructure funding gap is common among municipalities. Studies have shown Canadian municipalities carry a disproportionate burden for infrastructure investments, relative to the municipal share of all governmental funding seen in Canada. Based on Statistics Canada benchmarking, the Town is in a better than average position for its infrastructure assets. The Town is committed to optimizing the use of limited funds to provide strong services to the community while continuing to seek additional funding.Each stream of service delivery was considered for funding impacts. There were funding shortfalls that could not be addressed, resulting in the Town's proposed levels of service:

Service Delivery	Total Shortfall Over 10 Years
Capital	($5,722,269)
Operating	$0
Growth	$0

Table 17 - Proposed Levels of Service Funding Shortfall Summary

Based on the Town's Proposed Levels of Service, the Town will move forward with the adopted financial strategy conceding the shortfall and the associated trade-offs. The Town will continue to seek additional funding opportunities identified in the Fiscal Strategy and will monitor performance for future updates.

08 Conclusion

Newmarket's asset management planning process advances the Town's objectives for financial sustainability, and demonstrates a commitment to Town values of being Well Beyond the Ordinary. Asset management is a continuous improvement process. Through iterations of development and implementation, new asset management capabilities can develop and others can improve.

The Asset Management Plans is a significant milestone, and part of a broader implementation of asset management capabilities by the Corporate Asset Management Office and Town business units. The Town will review and update asset management plans every five (5) years. Plans will be approved and endorsed by Town Council.

Asset management is not a document or a software. It is a way of doing business every day, and a lifelong journey to improve the Town. Through this journey, the Town can truly become Well Beyond the Ordinary.

2025

Water Asset Management Plan

Newmarket

Acknowledgements

Development & Infrastructure Services Commission
Public Work Services – Water And Wastewater
Engineering Services
Data Analytics And Geospatial Services
Financial Services
Corporate Asset Management
Asset Management Steering Committee
Infrastructure Solutions Inc.

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03 Know Your Assets

The Town is responsible for $3 Billion+ of assets. Assets exist to provide services to the community. Their ability to deliver services depends on Town stewardship and informed decision making. As assets age, they have to be repaired or replaced.

Key takeaways:

- What do we own?
- What condition is it?
- What would it cost to replace?

Know Your Assets

Know Your Assets is the first section of the asset management plan and sets the foundation for analysis by providing an understanding of what assets the Town owns. It details the characteristics, history, age, condition, and replacement cost of the assets. This information helps inform the current state of infrastructure. The contents of this plan are based on 2023 data.

Context for State of Infrastructure

The State of the Infrastructure will combine inventory quantities, replacement costs, and condition ratings to provide a detailed breakdown of the asset portfolio. The inventory has been organized in a hierarchy to reflect the asset types providing the service, and to support reporting and planning. The Town's inventory for the Water service area is organized in Figure 1.

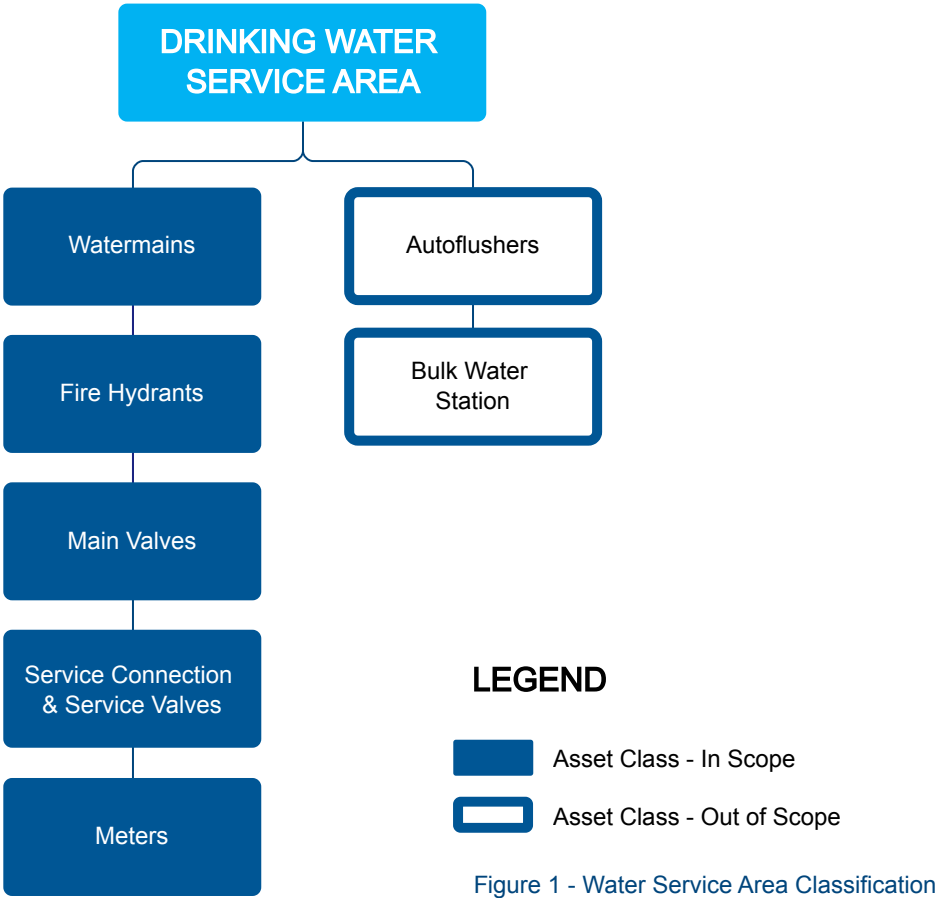


Figure 1 - Water Service Area Classification

Condition Index

Based on age or visual engineering observations, condition indicates the level of service and likelihood of failure for an asset. Assets are assigned condition ratings on a 5-point scale. Ratings are assigned based on age and supporting information like material type and frequency of main breaks. Photos are included to illustrate differences in condition and service quality.

Illustration of Levels of Service through Asset Condition

Condition influences service quality and levels of service are based on condition as forecasted in the Financial Strategy. To illustrate this impact, a collection of images has been collected depicting the differences in condition and levels of service.

Very Good 90-100

The asset is future-ready. It is in excellent condition, well-maintained, and recently constructed or rehabilitated. It can reliably meet service needs with minimal intervention.

Good 70-90

The asset is performing well. It meets all service expectations and is supported by proactive maintenance to sustain its condition as it progresses through the early-to-mid stages of its expected service life.

Fair 35-70

The asset is functioning adequately with some active maintenance. It shows some visible signs of aging and wear.

Approaching Replacement Need 20-35

The asset is approaching the eventual end of its service life with noticeable signs of moderate deterioration. Some components beginning to require closer monitoring to maintain reliable performance and targeted maintenance is required to maintain service levels.

Ready for Replacement 0-20

The asset has reached the end of its optimal service life and is a candidate for replacement. While functional, it is not delivering services at the optimal level. There are potential increased risks of service disruption. Maintenance efforts are focused on managing risks, minimizing disruptions, and preserving functionality to provide service levels until replacement occurs.

Figure 2 - Asset Condition Photo Illustration

Newmarket

Water

STATE OF INFRASTRUCTURE

Based on data as of December 31, 2023

INFRASTRUCTURE PURPOSE

The Town provides drinking water distribution to service residents, business and customers with water purchased from York Region.

KEY NOTES

Replacement Value: $681 Million

Inventory: Watermains: 315 km
Service Connections: 225 km

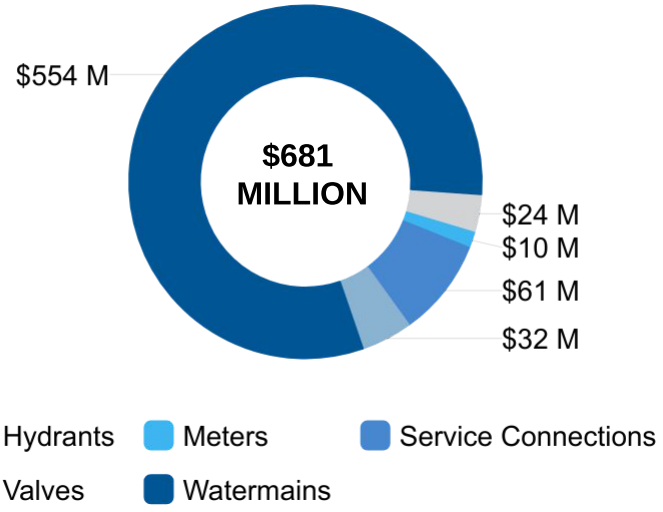
Average age: 29
Average Remaining Life: 43

Average condition: Good

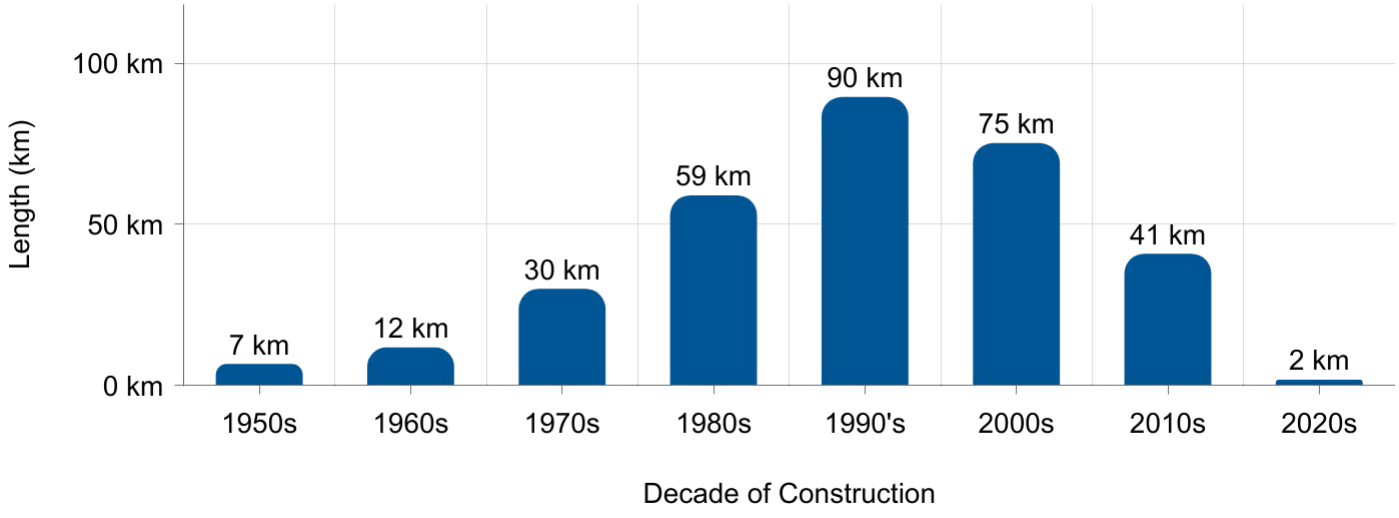
INVENTORY

Water Asset	Inventory
Watermains	315 km
Service Connections	225 km
Valves	5,255
Hydrants	2,383
Meters	27,125

TOTAL ASSET REPLACEMENT COST



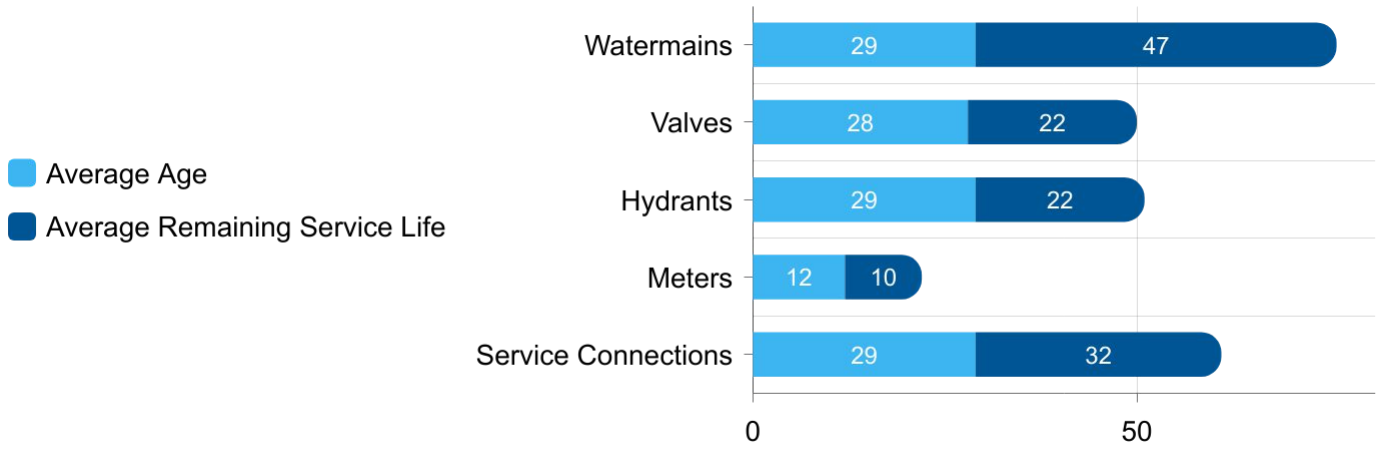
DECADE OF WATERMAIN CONSTRUCTION



Water

STATE OF INFRASTRUCTURE

AVERAGE AGE & REMAINING SERVICE LIFE



LEGEND

Very Good | Good | Fair | Approaching Replacement Need | Ready for Replacement

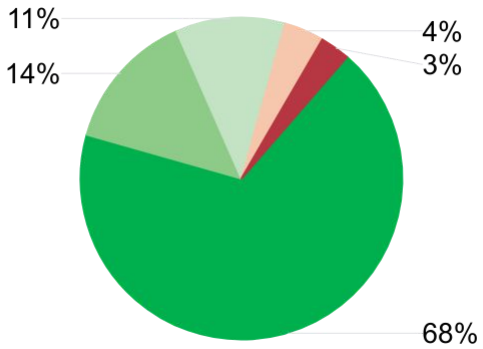
CONDITION CHANGES SINCE 2022

Assets moving in the ranges of very good, good, and fair from **93% to 93%***

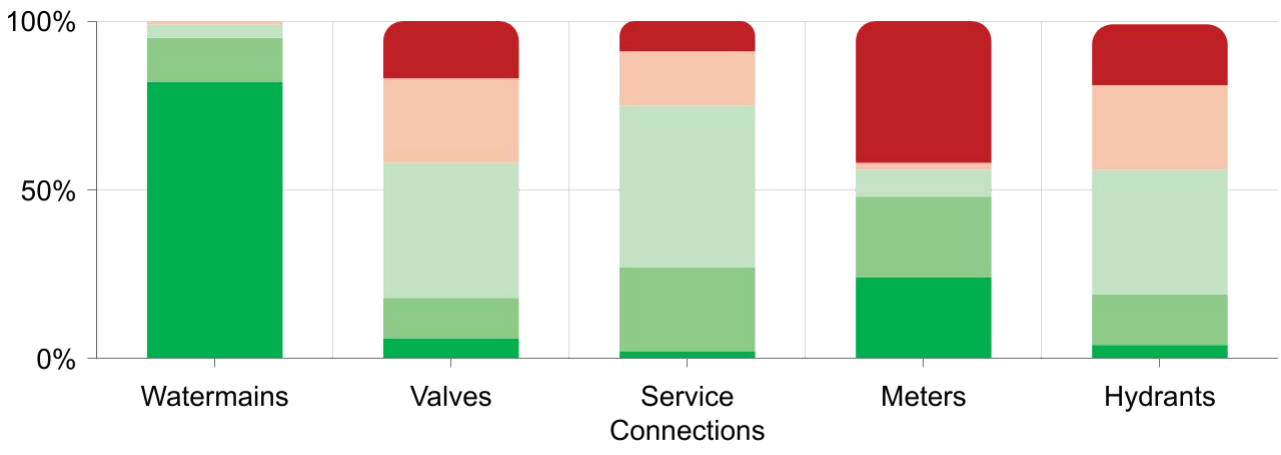
Asset moving in the ranges of approaching replacement need and ready for replacement from **7% to 7%***

*On average, no change in condition category.

CURRENT CONDITION



CONDITION BREAKDOWN



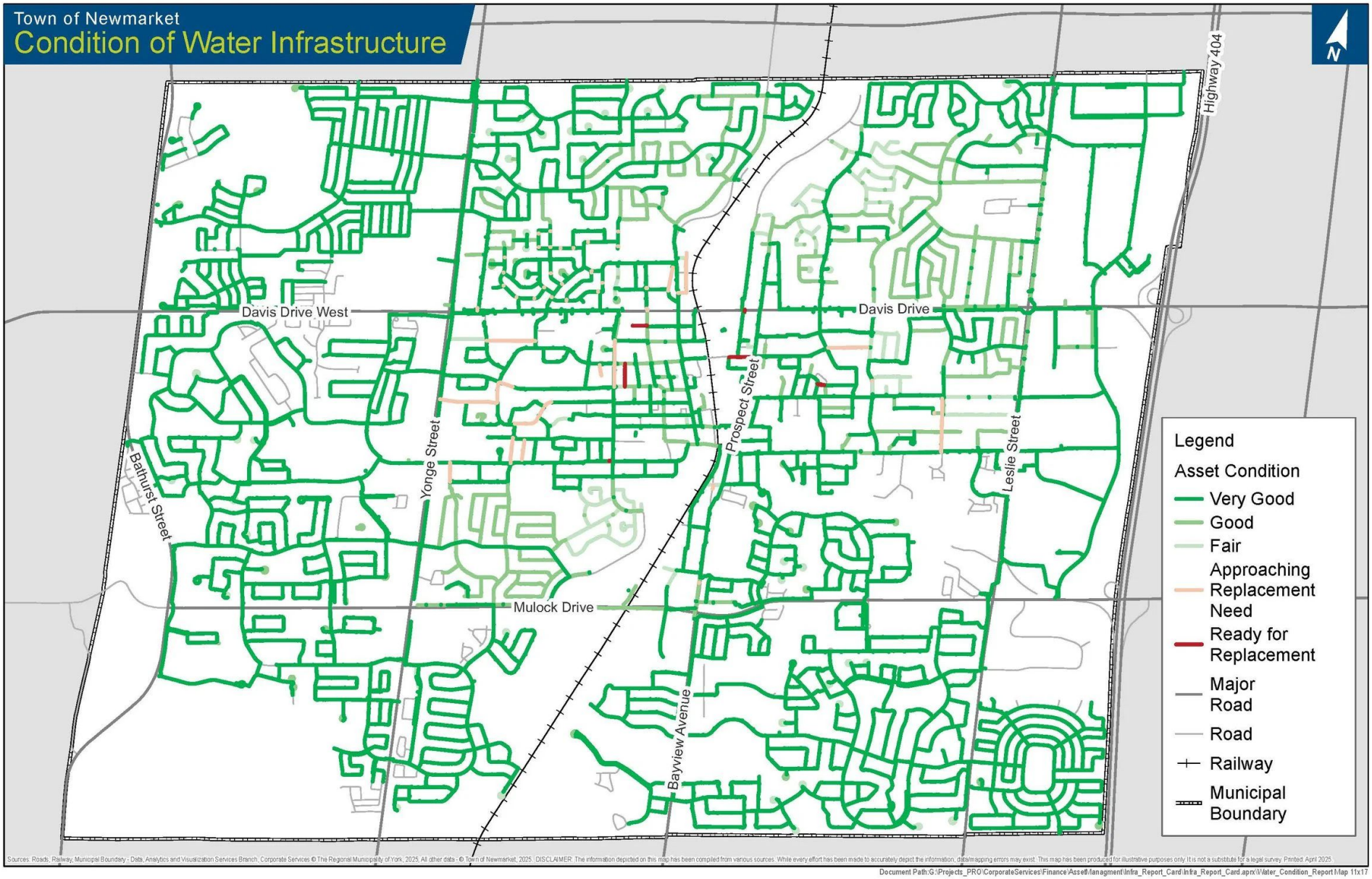


Figure 3 - Asset Scope and Condition Map

Condition Assessment Plan

Condition assessments increase knowledge of the assets, monitor performance, and refine financial projections. The Town currently uses age based assessment to determine asset condition for Water assets and is in the process of implementing a statistical desktop condition study.

Age-Based Assessment:
Complete

Field-Based Assessment: N/A
Next Assessment:
N/A

Follow Up Condition Monitoring:
Periodic update to the Watermain Desktop Condition Study

04 Manage Service Delivery

Asset management is a way of doing business every day. It requires processes to balance the services provided, the risks associated and the cost.

Key takeaways:

- What services do we provide?
- What activities support service delivery?
- What are the risks of our services?

Manage Service Delivery

The Manage Service Delivery section focuses on how asset management balances trade-offs to deliver value. The expenses the Town incurs over the lifecycle of the asset are taken with the goal of ensuring residents and business continue to receive exceptional service from the Town.

Measuring Levels of Service

Levels of Service (LoS) are measured by the service outcomes, asset performance, and supporting activities. They act as guiding benchmarks that inform operations, influence decision-making, and support the effective functioning and safety of assets and service delivery.

Customer Levels of Service

This is the level of service statement the Town commits to providing the customers.

Technical Measure

This is the technical and quantifiable measure of the customer level of service statement. This includes levels of service required by the Province for public reporting under Ontario Regulation 588/17.

These measures provide a framework for monitoring performance, identifying areas for improvement, and ensuring that operational activities align with overall safety and functional requirements.

Levels of Service Alignment

The LoS measures are organized to create alignment between Town strategic objectives, a corporate goal for the service and the subsequent service criteria and technical/customer measures. The benefit of this approach is ensuring the broader goal and outcomes of a service can be monitored and addressed through specific measures and actions. The result of this process is shown on the following page.

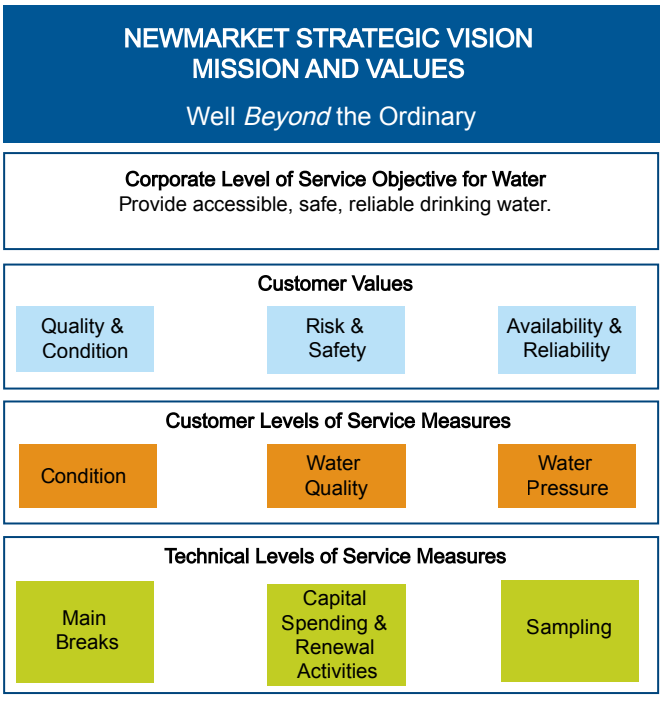


Figure 4 - Levels of Service Alignment

Performance and Results

Levels of service results are presented below using the metrics developed for the Water Asset Management Plan.

Customer LOS Statement	Technical LOS Measure	2023 Performance	Proposed 2034 Performance
Water connection is accessible and available.	Percentage of properties where fire flow is available.	99.17%	No change
	Percentage of properties connected to the municipal water system	97.08%	No change
Water is safe to drink.	The number of connection days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system	0	No change
Water system is well-managed and reliable.	Percentage of existing assets not due for replacement	97	93
	Number of watermain breaks	14	19
	The total number of available connection days per year due to water main breaks compared to the total number of properties connected to the municipal water system.	99.99960%	99.99941%

Table 1 - Current and Proposed Performance and Results

The Town is not proposing any operational service levels changes at this time as current service levels are appropriate as experienced by the community. Any changes in numbers shown in the proposed performance table are due to aging assets (which lowers condition) or asset rehabilitation (which improves condition). Any potential future adjustments will be assessed based on operational needs, stakeholder feedback, and emerging industry best practices. Performance changes will be documented in future annual update plans.

Legislative Requirements

The Town currently operates within several regulatory requirements. As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

CURRENT LEGISLATIVE REQUIREMENTS

The Town currently operates within several regulatory requirements. Regulations include:

- Drinking Water Systems - Ontario Regulation 170/03
- Ontario Drinking Water Quality Standards - Ontario Regulation 169/03
- Certification of Drinking Water System Operators and Water Quality Analysts - Ontario Regulation 128/04
- Fire Code - Ontario Regulation 213/07
- National Fire Protection Association (NFPA)

As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

NEW UPCOMING LEGISLATIVE REQUIREMENTS

The review of legislative requirements during the development of this plan found no major upcoming legislative requirements that would impact minimum levels of service requirements for the operations and maintenance of Water assets.

Lifecycle Activities

This table outlines business practices employed by the Town to manage assets and services throughout their lifecycle.

Watermain Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Water is safe to drink.	Water system is well-managed and reliable.
Acquire and Commission	Construction of new water mains	✓	✓
Operations, Maintenance, and Inspections	Watermain flushing: (unidirectional, dead end, automated)	✓	✓
	Watermain swabbing	✓	✓
	Watermain breaks	✓	✓
	Water quality monitoring	✓	✓
	Demand monitoring and modelling	✓	✓
	Watermain cathodic protection	✓	✓
Renewal and Rehabilitation	Watermain lining	✓	✓
Replacement	Replace watermains and associated infrastructure	✓	✓

Table 2A - Lifecycle Activities - Watermains

Meters, Bulk Meter, and Water Station Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Water is safe to drink.	Water system is well-managed and reliable.
Acquire and Commission	Construction of new meters		✓
Operations, Maintenance, and Inspections	Meter reads, inspections, investigations, and maintenance.		✓
	Bulk meter inspections		✓
	Water station flushing		✓
	Water station calibration		✓
Renewal and Rehabilitation	Operational meter repairs and replacements		✓
	Bulk meter and water station repairs/replace		✓
Replacement	Replace meters		✓
	Upgrade meters to smart advanced meters (AMI)		✓

Table 2B - Lifecycle Activities - Meters, Bulk Meter and Water Station

Lifecycle Activities - Continued

Fire Hydrant Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Water is safe to drink.	Water system is well-managed and reliable.
Acquire and Commission	Construction of new hydrants		✓
Operations, Maintenance, and Inspections	Inspections and servicing		✓
	Hydrant painting		✓
	Winter inspections and maintenance		✓
	Fire flow operations		✓
Renewal and Rehabilitation	Repairs and operational replacements		✓
Replacement	Replace hydrants and associated infrastructure		✓

Table 2C - Lifecycle Activities - Fire Hydrants

Valves Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Water is safe to drink.	Water system is well-managed and reliable.
Acquire and Commission	Construction of new valves and service valves		✓
Operations, Maintenance, and Inspections	Valve inspection and turning		✓
	Valve operations, shut-offs		✓
Renewal and Rehabilitation	Valve repairs and operational replacements		✓
Replacement	Replace valves and associated infrastructure		✓

Table 2D - Lifecycle Activities - Valves

Risk

Risk can be assessed at multiple levels. This plan will evaluate risk from two key perspectives: service-level risk, which pertains to potential impacts that may disrupt the delivery of services to the public and community, and asset-level risk, which focuses on the exposure of the assets themselves.

The chart below illustrates asset risk. The risk assessment was conducted on a risk assessment matrix based on likelihood of failure and the consequence of failure.

WATER RISK PROFILE

Likelihood of Failure

- Age
- Material
- Failure History

Consequences of Failure

- Total population serviced per pipe (hydraulic modeling)

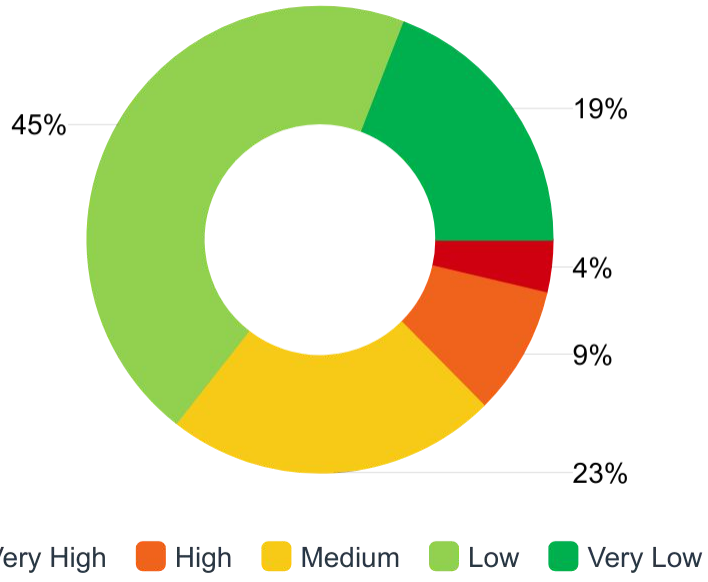


Figure 5 - Asset Risk Profile

05 Future Ready

What was once a small but thriving Town, today Newmarket is a desirable and affordable community. While the future is bright, trends like increasing service expectations, urbanization, and climate change are challenging the status quo. The future will change how the Town manages assets.

Key takeaways:

- What increases in asset-related services are expected?
- How will climate change impact assets?

Future Ready

Ongoing and future trends will impact the way the Town delivers its services and manages its assets. Proactively identifying these trends and pressures allows the Town to account for risk and take advantage of opportunities. Using planning to maintain a future outlook allows for a balance between maintaining present services while managing growth.

The Future Ready section will discuss the following:

Growth

An outlook of forecasted growth in the asset portfolio.

Climate Change

Vulnerabilities and adaption and mitigation approaches to climate change, specifically flooding. Results of a flood risk assessment are provided as flooding is the first of several types of climate considerations to be applied in the future.

Growth Planning in Newmarket & Population

The Town of Newmarket is expected to grow from its current population of approximately 90,700 residents to a future population of 118,500 by 2051 according to provincial and regional plans. At the same time, the employment base is projected to grow from 45,000 to 58,100 jobs.

		2021	2031	2041	2051
Newmarket	Population	90,700	98,900	107,200	118,500
	Employment	47,500	50,600	53,900	58,100

Table 3 - Newmarket Growth in Population and Employment

To support this population, more assets and new types of assets may be required to provide asset-related services and to maintain service levels. The asset management plans reflect planning efforts to coordinate assets and population growth in alignment with the 2019-2028 Development Charges Background Study.

Identified Growth

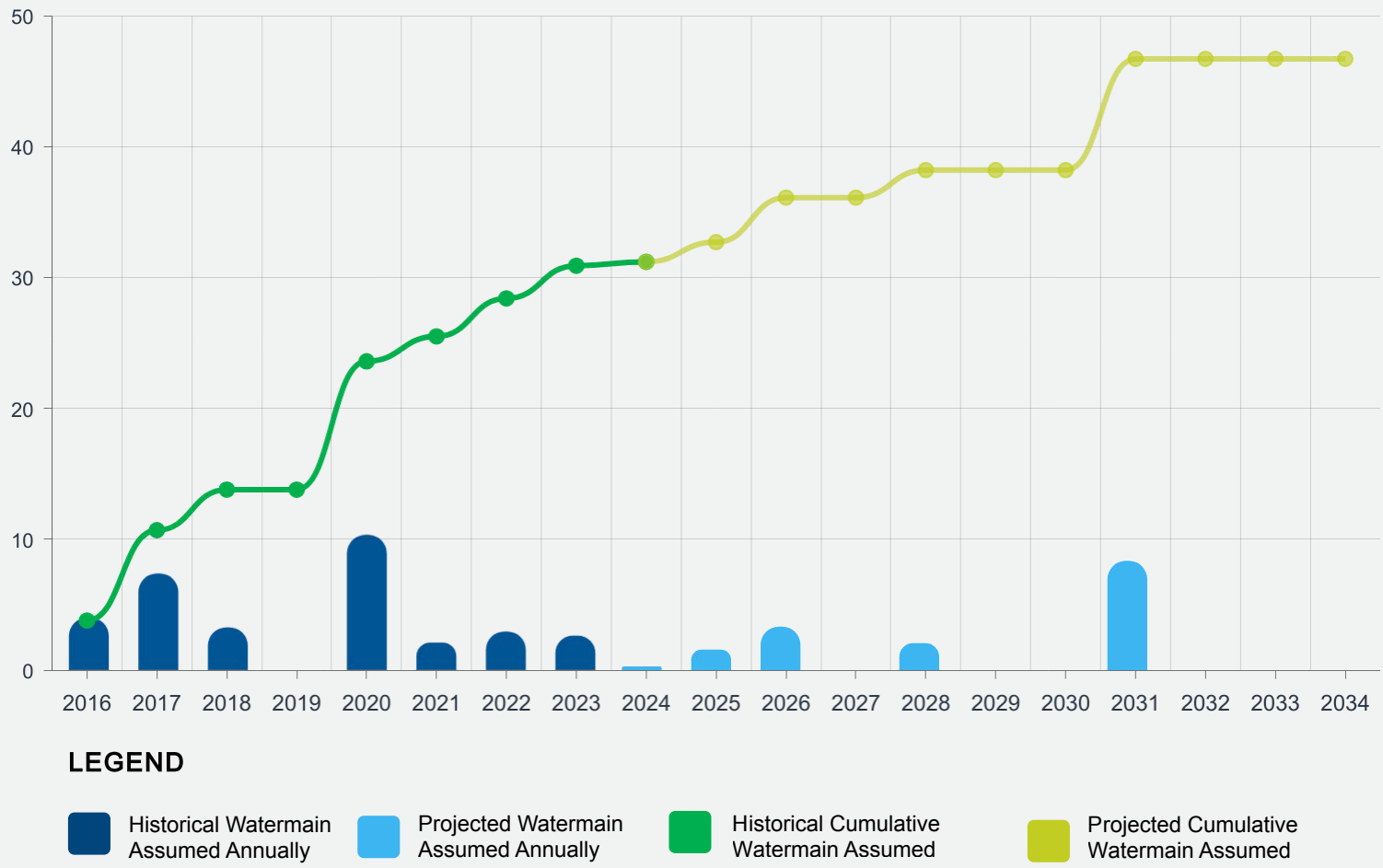


Figure 6 - Historical Assumption and Projected Growth

The following table summarizes asset increases in the asset portfolio. Information on growth values and impacts will be discussed in the Financial Context section.

Years	Watermain (km)	Water Services
2024	0.3	40
2025	1.6	121
2026	3.4	475
2027	-	-
2028	2.1	410
2029	-	-
2030	-	-
2031	8.5	-
2032	-	-
2033	-	-
2034	-	-
Total	15.9 km	1046

Table 4 - Asset Growth Forecast

Climate Change Assessment

To prepare for climate change impacts, the Town engaged with the Ontario Climate Consortium (OCC) to conduct a corporate-wide flood risk resilience assessment of Town-owned infrastructure. The scope did not address Town-owned Water distribution network as these assets are buried underground and the impacts of flooding are difficult to model. There are also other types of climate change impacts that would be of particular impact to the Town, such as freezing and thawing of the ground where pipes are buried. These types of impacts will be studied as the Town's capabilities to mitigate and adapt to climate change improve.

06 Financial Context

The Financial Context section brings together the data and analysis from previous sections to provide a clear view of the Town's financial situation regarding its assets. It reviews historical and current practices and future outlook based on anticipated growth. Three scenarios are introduced here to explore different levels of service based on asset condition and funding levels.

Key takeaways:

- What are the Town's current financial practices for asset management?
- What operating budget supports our assets?
- What is the long-term financial impact of growth, based on the total lifecycle of the assets?

Financial Strategy

The sustainability of Town infrastructure depends on effective management and ensuring the optimal use of available funds. The Town of Newmarket has developed a Financial Strategy to evaluate the relationship between current investment levels, service outcomes and risk of service failures. The financing strategy strengthens the budget process by reinforcing a long-term perspective of service levels. The Town modelled and prepared an analysis of three scenarios over a 10-year time horizon to determine the Proposed Levels of Service.

Capital Financial Strategy

The history of the Town's financial contributions and capital spending practices were used to inform the financial analysis conducted. This historical context provides valuable insights into the Town's fiscal health, helping to inform future financial planning and decision-making processes.

Year	Water Reserve Contribution	Reserve Contribution as a Percentage of 2023 Replacement Value
2018	$3,127,156	0.46%
2019	$2,609,357	0.38%
2020	$2,543,390	0.37%
2021	$2,937,389	0.43%
2022	$4,037,366	0.59%
2023	$3,400,000	0.50%

Table 5 - Historical Reserve Contributions

Year	Water Capital Spending on Existing Assets	Capital Spending as a Percentage of 2023 Replacement Value
2018	$1,712,189	0.25%
2019	$4,224,256	0.62%
2020	$337,524	0.05%
2021	$1,159,179	0.17%
2022	$1,626,667	0.24%
2023	$7,060,690	1.04%

Table 6 - Historical Capital Spending

Estimated Future Reserve Contributions

The Town's reserve contributions are geared towards long-term financial planning and to balance funding with future renewal costs. These projections will be reviewed each year through internal processes and Council-approved budgets. The Town's increased reserve contributions are part of the rate-supported financial plans for water, wastewater, and stormwater services. The forecasted reserve contributions are based on the customer demand, rates, and expected population growth, along with the economic activity outlined in the Future Ready section. Funding increases for service areas would be proportional, with additional factors from the Reserve & Reserve Fund Review taken into account.

Year	Estimated Future Reserve Contributions
2025	$3,346,351
2026	$3,546,351
2027	$3,946,351
2028	$4,346,351
2029	$4,746,351
2030	$5,046,351
2031	$5,546,351
2032	$5,946,351
2033	$6,446,351
2034	$6,846,351

Table 7 - Estimated Future Reserve Contributions

Water Scenario Methodology

To forecast capital investment need, consolidation of inventory, replacement cost, condition, levels of service, risk, and lifecycle activities as shown throughout the AMP was completed.

Three scenarios were created to answer key questions about current budget, future requirements, sustainability and proposed levels of service. Analysis is carried out in Decision Optimization Tool, the Town's risk-based investment planning software. The scope of the analysis is the capital cost of replacing existing assets. During the annual budget process, these estimates are reviewed and refined with additional cost drivers for staff delivery capacity, operational impacts, and detailed designs.

Scenario	Description of Scenario Constraints and Objectives
1 – Current Budget	The purpose of the current budget scenario is to calculate the level of service achievable with current funding. Scenario parameters are: • Maximize network performance for limited funds. • Based on current funding as of 2025.
2 – Needs Based	The purpose of the needs-based scenario is to calculate the true cost of maintaining the full asset inventory at current service levels for comparison with current practice. Scenario parameters are: • Limit the number of very poor assets to 5%. • Minimize the cost of maintaining asset portfolio but no budget constraint. • Maintain current levels of services.
3 – Proposed Levels of Service	Proposed Levels of Service documents the Town's financial strategy to increase the capital funding of asset replacements in recognition of the prevailing trends of aging assets. This is achieved through alignment with the Town's Fiscal Strategy and the Reserve Fund Review, which identifies a path to achieving sustainable asset funding levels through a long-term strategy. This strategy will be further reviewed in the Proposed Level of Service section. Scenario parameters are: • Maximize network performance for limited funds. • Employ risk-based prioritizations within the investment planning software to minimize risk. • Increase asset replacement funding from 2025 levels using the strategies identified in the Reserve Fund Review. • Minimize the number of watermain breaks. Proposed Levels of Service are the basis for the 2025 Asset Management Plans.

Table 8 - Scenario Methodology

Water Scenario Results

The figures on the following pages illustrate how the cost of renewals for different service targets and the condition of Water are forecasted to change over time under all three scenarios.

SCENARIO 1 | CURRENT BUDGET

- Calculate the level of service achievable with current funding.
- Maximize network performance for limited funds.
- Based on current funding as of 2025.

CONDITION FORECAST

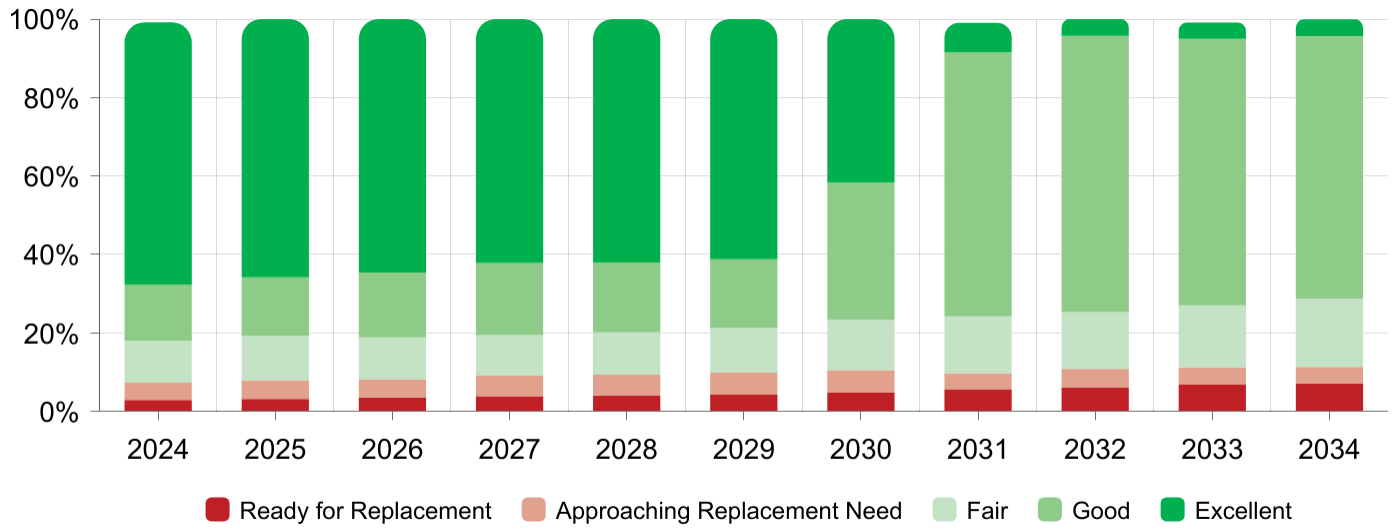


Figure 7 - Forecasted Condition over 10 Years - Current Budget

CAPITAL EXPENDITURE

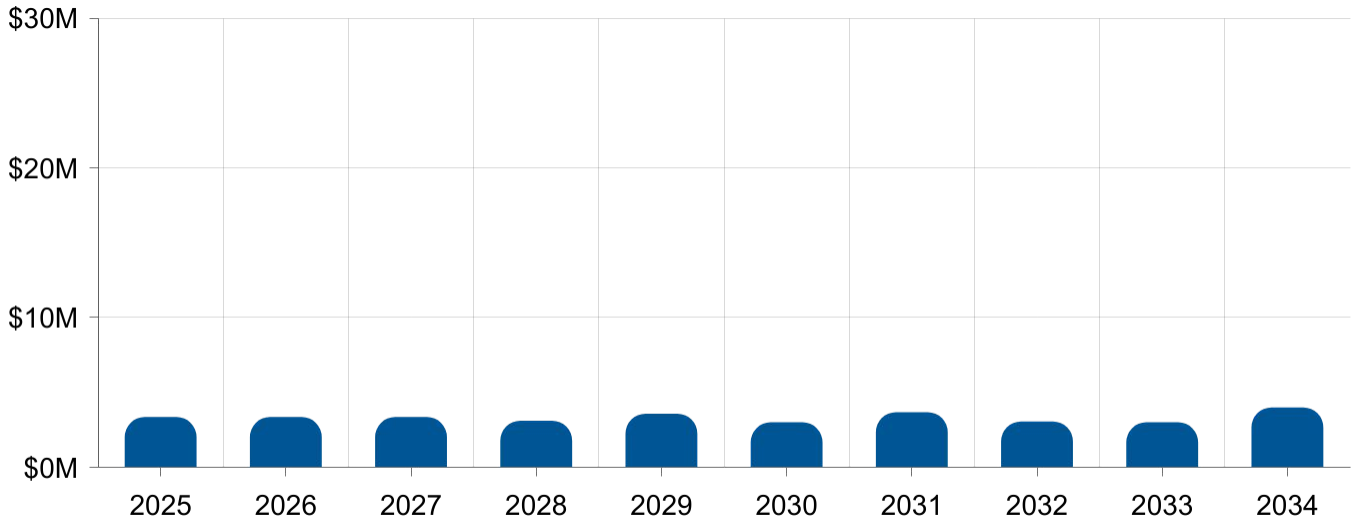


Figure 8 - Forecasted Capital Expenditure over 10 Years - Current Budget

SCENARIO 2 | NEEDS BASED

- Calculate the true cost of maintaining the full asset inventory
- Limit the number of Ready for Replacement assets to 5%
- Minimize the cost of maintaining asset portfolio, but no budget constraint

CONDITION FORECAST

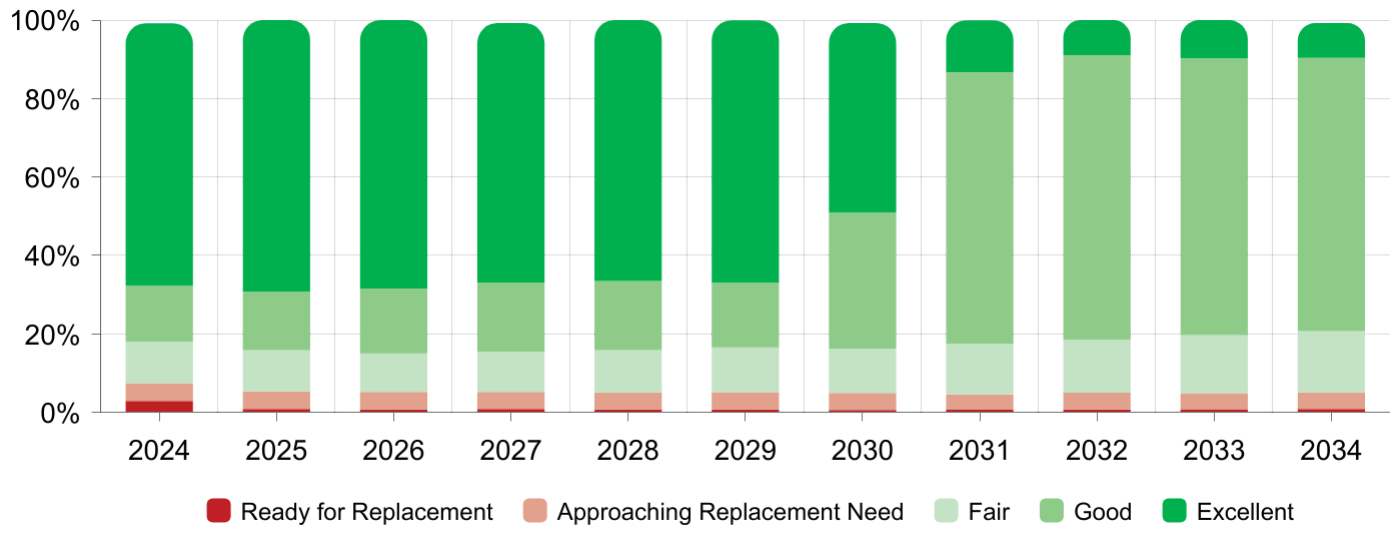


Figure 9 - Forecasted Condition over 10 Years - Needs Based Budget

CAPITAL EXPENDITURE

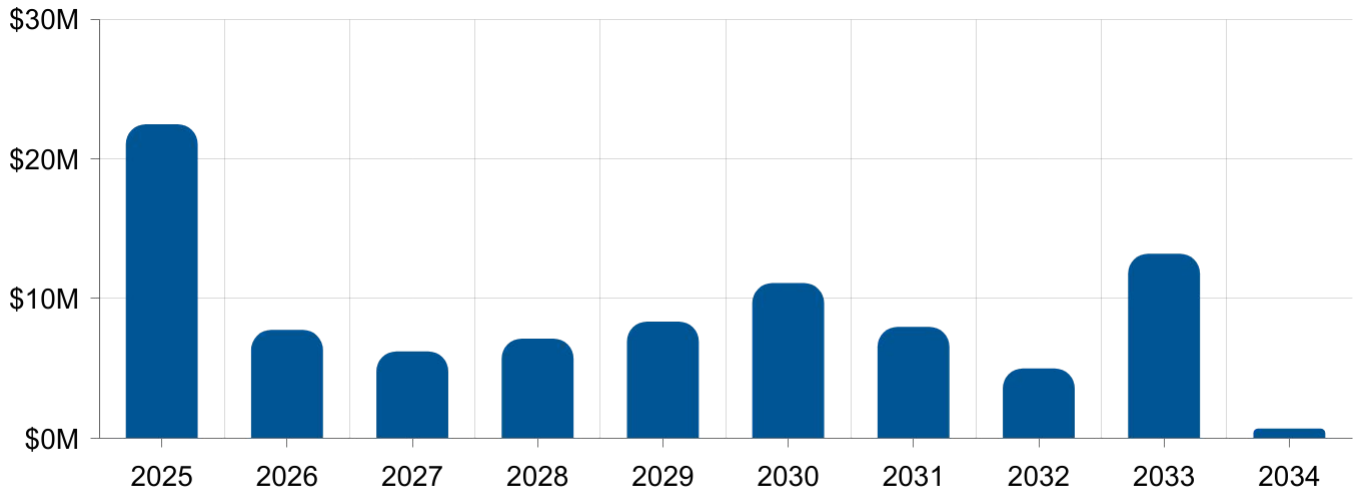


Figure 10 - Forecasted Capital Expenditure over 10 Years - Needs Based Budget

SCENARIO 3 | PROPOSED LOS

- Maximize network performance for limited funds.
- Employ risk-based prioritizations to minimize risk.
- Increase asset replacement funding as identified in the Reserve Fund Review.
- Minimize the number of watermain breaks.

CONDITION FORECAST

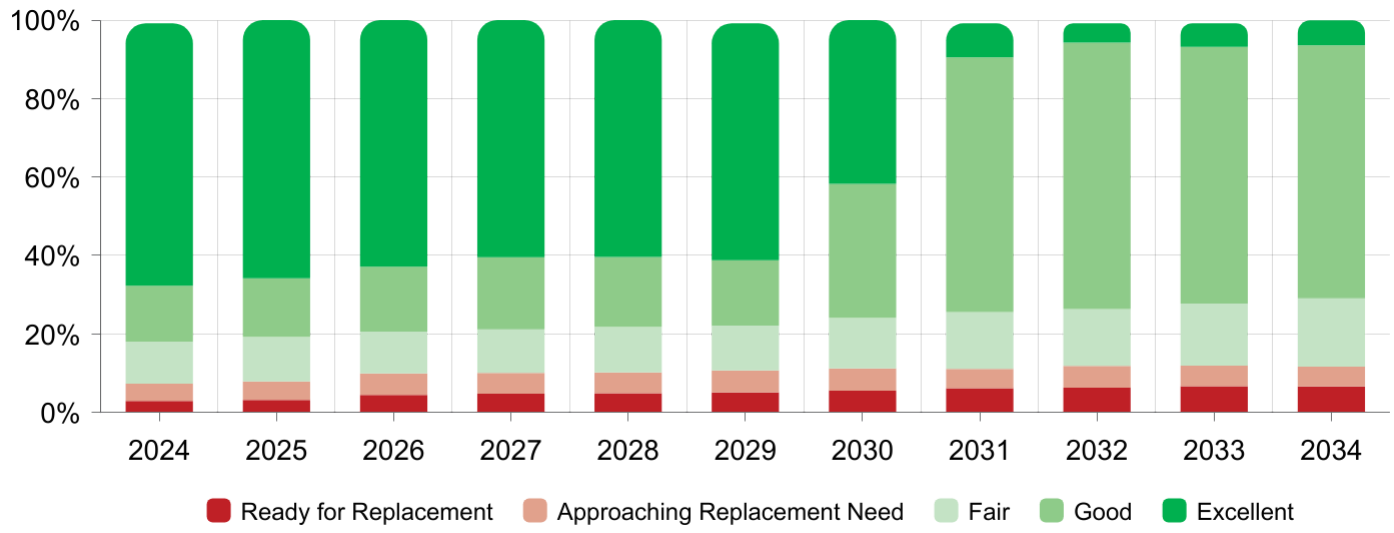


Figure 11 - Forecasted Condition over 10 Years - Proposed LOS Budget

CAPITAL EXPENDITURE

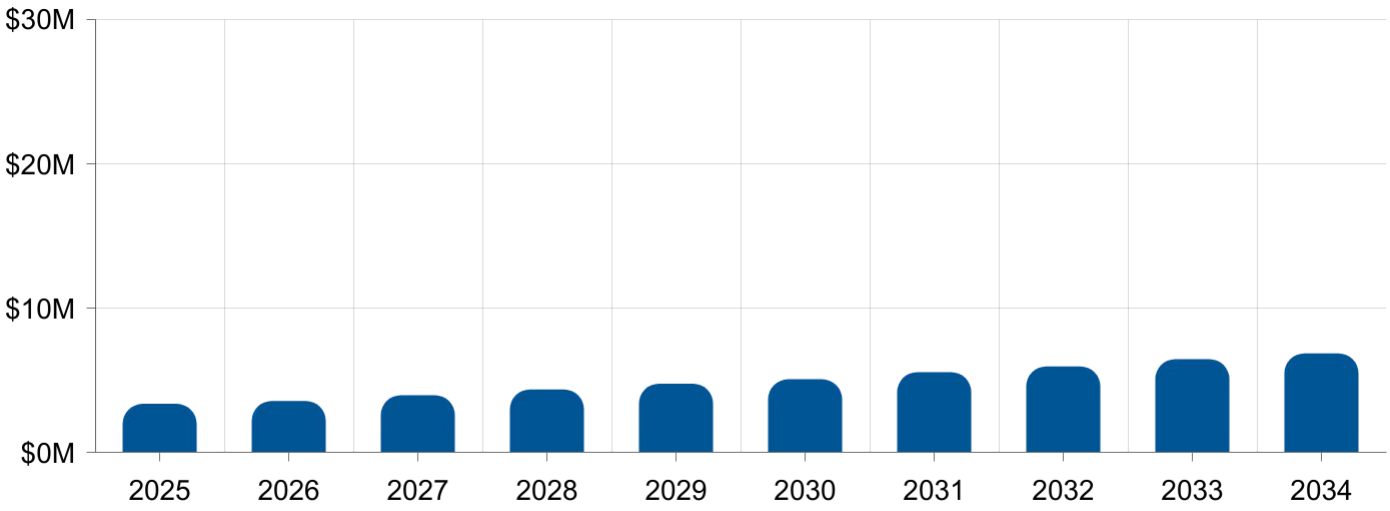


Figure 12 - Forecasted Capital Expenditure over 10 Years - Proposed LOS Budget

Operations & Maintenance

Using the Town's framework for lifecycle activities, the Town's operations and maintenance budget reflects the cost of delivering asset-related services for the activities occurring after acquisition and outside of rehabilitation, replacement, and decommissioning. These are listed in Manage Service Delivery.

The Town is not proposing levels of service changes to its operational lifecycle delivery, as identified in the performance results shown in Levels of Service section and discussed further in Proposed Levels of Service.

$3.57M
Annual O&M cost for Water assets

Financial Impacts of Growth

When a new asset is commissioned, it begins a lifecycle of service and costs. The total value of growth in assets by replacement value identified in Future Ready is as follows. This asset management value may vary from other estimates which consider local factors, developer agreements, or staff resources needed to support growth.

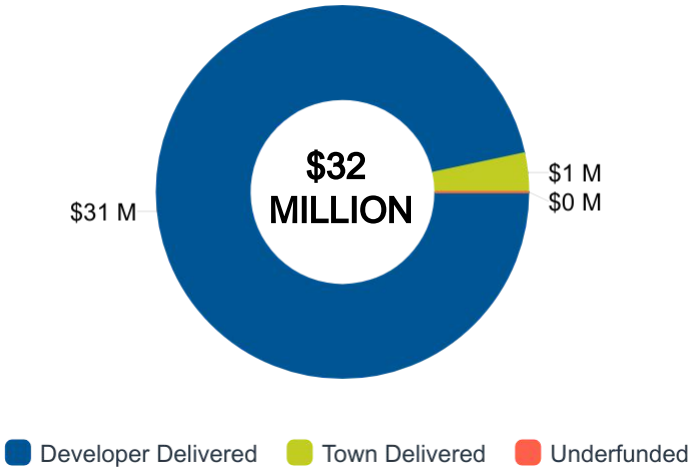


Figure 13 - Total Value of Growth by Funding Source

While providing services, new assets also requires operations, maintenance, and eventual replacement. Acquiring an asset means anticipating future costs, which is essential for financial planning and understanding the total cost of ownership. To reflect this, the Financial Impact of Growth depicts two types of cost: annual O&M cost and reserve fund contribution.

Annual Operating Impact

The annual operating impact reflects the cost of maintaining assets at current service levels, including inspections, cleaning, and energy use. These costs are estimated by scaling current service levels to match growth and are measured in operating dollars per year. Using the asset quantities forecasted in Future Ready, the increases in operations and maintenance costs to maintain current service levels over the next 10 years is expected to be as shown below. This forecast will be reviewed and refined through the annual budget process as projects are scoped and operational needs are confirmed.

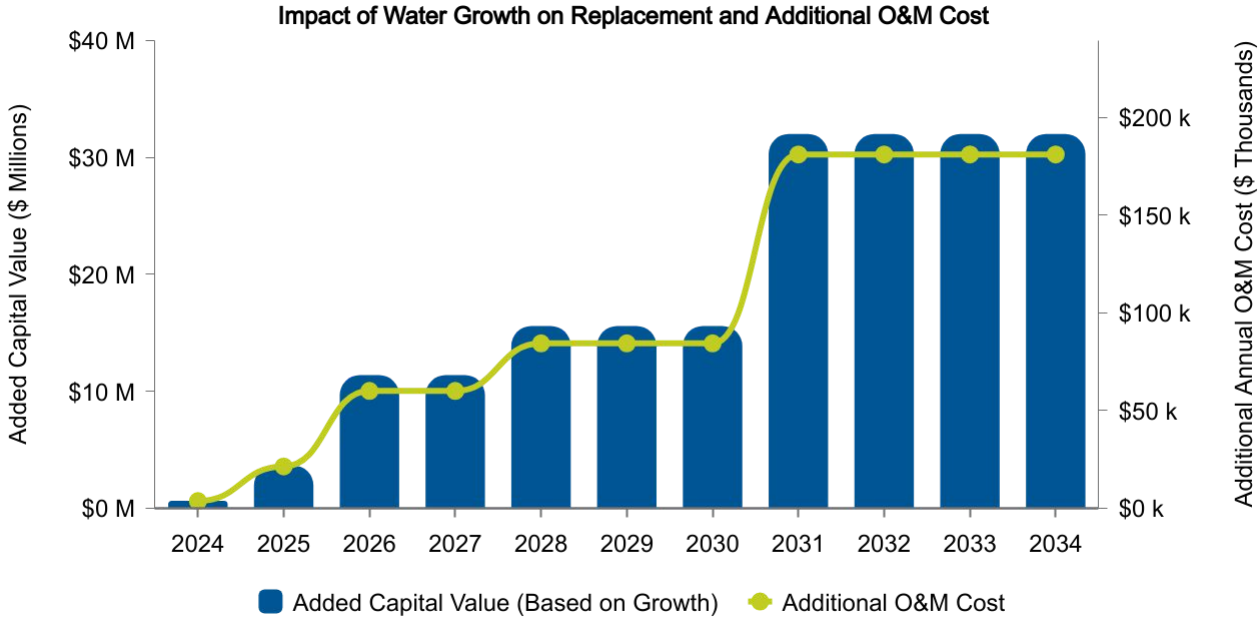


Figure 14 - Impact of Growth on Replacement Cost and Additional Annual O&M Cost

Financial Impacts of Growth - Continued

Reserve Fund Contribution for Sustainable Replacements

Annual reserve contributions ensure funds are available to replace assets at the end of their useful life by spreading costs evenly over time. This prevents a backlog of future replacements and supports asset sustainability. The contribution is calculated by dividing total replacement costs by average asset lifespan. It excludes other capital costs like upgrades, or staff resources to supported added capital delivery. It assumes based on the Town's Reserve Fund Review that the Town can achieve this ratio of funding for all of its assets over time. The graph below shows the increased annual contributions required to sustain future capital replacements.

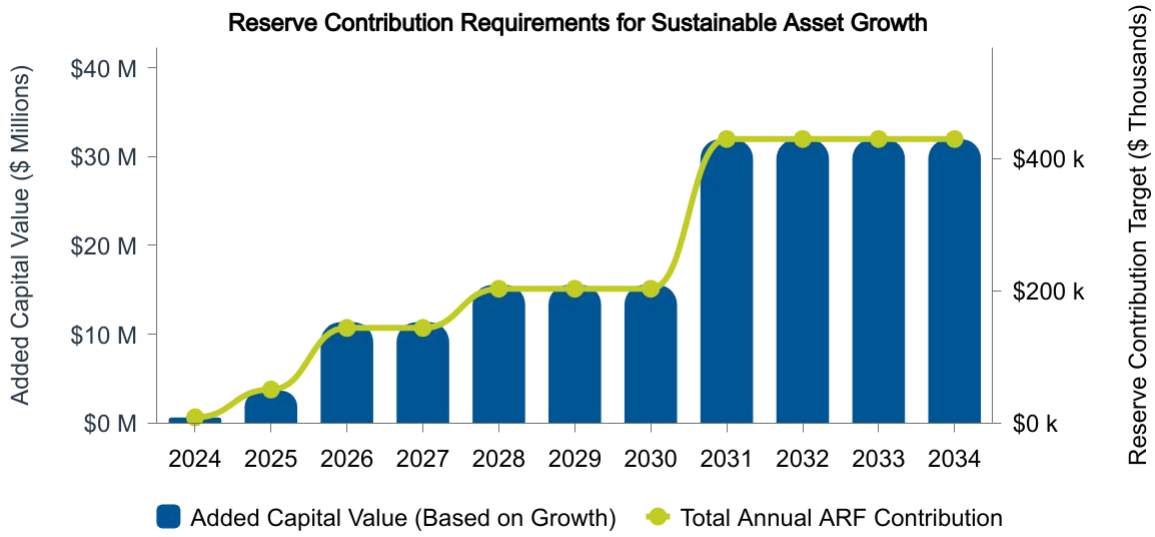


Figure 15 - Reserve Contribution Requirements for Sustainable Asset Growth

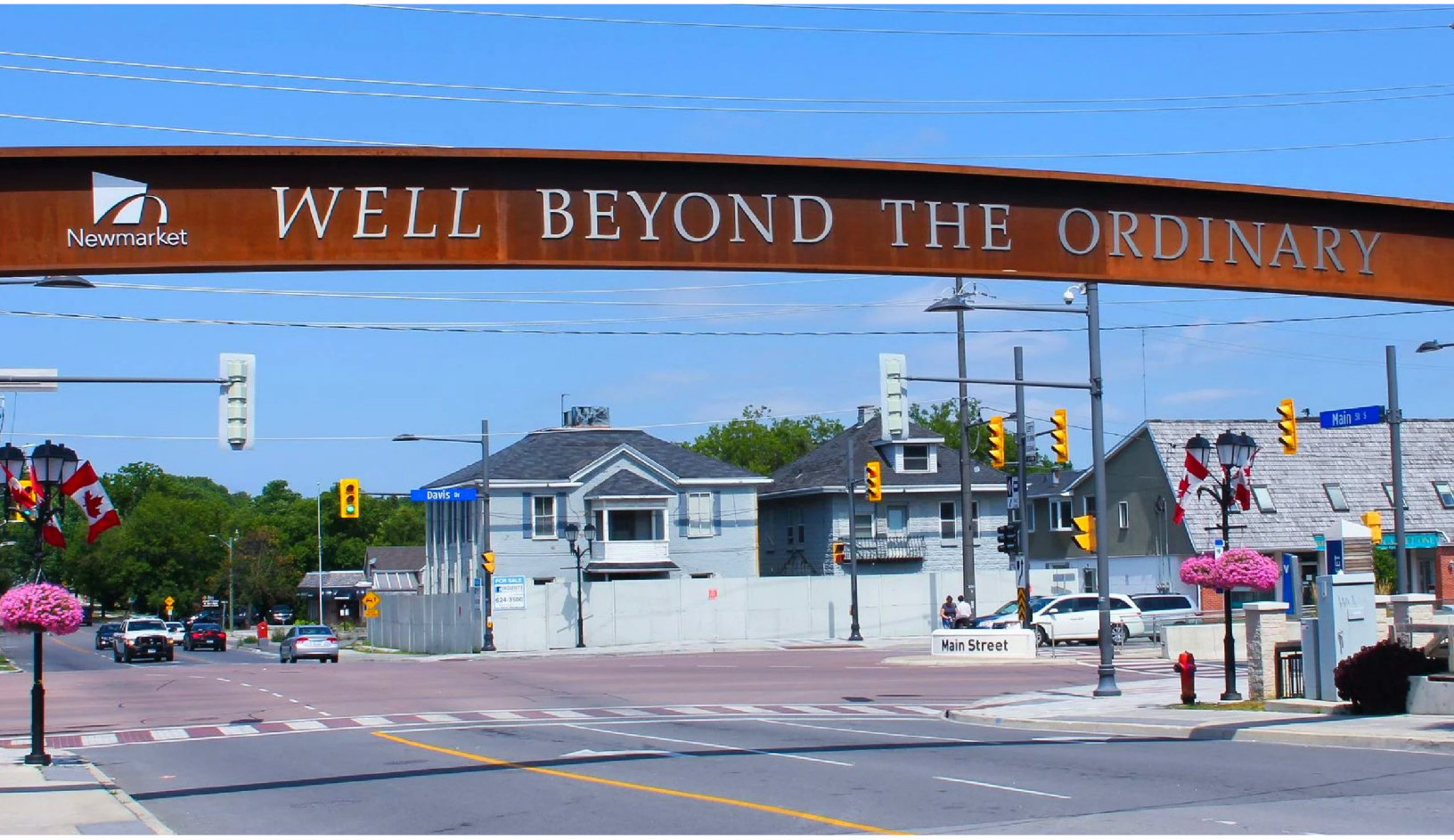
Total Cost of Growth

Accounting for both operational and maintenance costs and reserve contribution requirements, the total estimated annual cost of growth is summarized in the table below. The funding of the growth impacts is discussed further in Proposed Levels of Service.

Financial Impact by Year	Growth in Assets (Replacement Value)	Annual Total O&M Costs per KM of Watermain	Annual Reserve Contribution Target	Total Annual Financial Impact of Growth (Cumulative)
2024	$625,899	$3,641	$8,656	$12,298
2025	$3,031,138	$17,722	$41,879	$71,899
2026	$7,713,435	$38,618	$91,975	$202,492
2027	$0	$0	$0	$202,492
2028	$4,207,540	$24,311	$58,274	$285,077
2029	$0	$0	$0	$285,077
2030	$0	$0	$0	$285,077
2031	$16,404,548	$96,695	$226,270	$608,041
2032	$0	$0	$0	$608,041
2033	$0	$0	$0	$608,041
2034	$0	$0	$0	$608,041

Table 9 - Total Cost of Growth Summary over 10 Years

07 Proposed Levels of Service



Proposed Levels of Service forecasts the projected service levels the Town will deliver through its assets using a financial strategy in alignment with O.Reg. 588/17. The Proposed Levels of Service forms the basis for 10-year forecasting, annual budget recommendations, risk management, and performance monitoring. It incorporates information from all previous sections of the asset management plans.

Key takeaways:

- What is the proposed level of service based on a holistic view of the combined factors (cost, level of service, risk)?
- How is the proposed level of service achieved?
- What is the proposed level of service performance forecast?
- What is the financial summary of the proposed level of service?

Proposed Levels of Service

Concluding the Asset Management Plans in accordance with O.Reg. 588/17, Proposed Levels of Service can be summarized based on financial analysis and the information contained throughout the plans.

Levels of Service Achieved Through Capital Renewals and Replacements

The Proposed Levels of Service Scenario including its funding and asset conditions are the Town's selected plan for funding renewals and replacement. It considers risk associated with aging assets against the Town's goals of sustainably providing quality asset-related services at a level that is affordable and appropriate for the community.

Level of Service Option	Rationale	Funding Achieved Over 10 Years	Funding Gap
Scenario 1 Current Budget	Current Budget reflects that the Town currently provides strong levels of funding for maintaining its assets, but what was sufficient for historical levels of renewal will not be appropriate going forward as assets continue to age. The decrease in service levels over 10 years are not a rate that is sustainable or appropriate for the community and would reflect an increase in risk.	$33.46 M	($56.44 M)
Scenario 2 Needs Based Budget	Needs Based expands on Scenario 1 by showing the financial needs associated with maintaining an aging asset portfolio. This shows that the true cost of maintaining the Town's assets is more costly than what the Town currently provides. When combined with a risk-based approach, this was used to inform Scenario #3 Proposed Levels of Service.	$89.91 M	N/A
Scenario 3 Proposed Levels of Service	Proposed Levels of Service aligns with the Town's overarching financial strategy, balancing levels of service, risk, and affordability. It shows some potential decrease in service levels in the short term at a rate that is acceptable when balanced against affordability concerns and risk assessments. The Fiscal Strategy and Reserve Fund Review demonstrates that service levels can be achieved over a longer term. The financial strategies include rate-supported financial plans, increased tax-supported contributions to asset management funds, reserve management and investments, assessment growth, use of provincial and federal grants, interfund-borrowing, annual budgeting, and where allowable a role for external debt funding of capital projects.	$49.76 M	($40.14 M)

Table 10 - Levels of Service Options Funding Gap

Levels of Service Achieved Through Operations and Maintenance

The Town is not proposing any material changes or enhancements to the lifecycle activities and operational service levels. This is because:

- In accordance with the Municipal Act and Town municipal funding practices, the operating budget is considered a sustainable source of funding operations and maintenance through rate and tax-supported annual budgets.
- The current service levels are affordable and appropriate as they are already experienced by the community.
- Maintaining current service levels allows the Town to acquire asset expansions associated with population growth using assessment growth, without further financial impacts. This is part of the Town's Fiscal Strategy.
- The assessed risk of the condition of the assets based on the funding of renewals is within the Town's operational capacity to mitigate potential risks.

Cost of Current Levels of Service	Proposed Levels of Service	Shortfall
$3,596,930.90	No Change	$0

Table 11 - Proposed Levels of Service O&M Funding Shortfall

Levels of Service Maintained With Growth

The expected growth in population demonstrates the need to expand and intensify assets used to maintain service levels. The forecasts of asset growth show increases to the asset portfolio in line with population increases. The Town funds the acquisition, operations and future replacement of growth assets to maintain strong services to the community. These cost estimates do not include the human resources of delivering growth assets.

Value of Assets to Support Proposed Levels of Service through Growth	Value of Developer Delivered Assets	Value of Town Delivered Assets	Shortfall
$31,982,560	$30,917,210	$1,065,350	$0

Table 12 - Growth Capital Funding Shortfall

Once assets are operational, it was shown there is a new operating cost to maintain them. To achieve the Proposed Level of Service for new assets as well as existing assets, the Town incorporates growth principles into its budget process by reserving the use of assessment growth to fund the operations of new assets. This ensures that growth in population, growth in assets, assessment growth, and service levels achieve parity as intended by the Development Charges Act.

Total Operating Impact of Growth for Proposed Levels of Service	Forecasted Operating Budget Allocated Through Assessment Growth	Shortfall
$180,987	$180,987	$0

Table 13 - Growth O&M Funding Shortfall

Service Risk

After considering the trade-offs between service levels and affordability, risk was considered to confirm service levels are appropriate. Risks were identified and mitigated to levels that are appropriate for the community and the Town's operations and maintenance program. Risks associated with the Proposed Levels of Service are:

Service Risk	Mitigation Measures	Residual Risk
Watermain breaks & service disruptions associated with aging cast iron and ductile iron watermains.	Main break response planning with operations staff and contracted services. Data collection and trend analysis. Road patrol and customer service phone-lines. Cathodic protection and lining.	Repairs through routine operations restore service quickly. Forecasting indicates main breaks will be steady or decreasing over time.
Water quality issues during operations and main breaks.	Provincial compliance and stringent testing. Flushing and swabbing. Lining & cathodic protection. Testing and monitoring during watermain break reinstatement. Back-flow prevention program.	Provincial compliance and multi-step approach mitigates risk of water quality issues.
Damages to other road & underground infrastructure.	Data collection and trend analysis. CCTV sewer inspections, I&I program, road needs studies. Risk-based prioritization and coordination of infrastructure.	Some impacts to co-located infrastructure in areas prone to watermain breaks.
Water loss associated with aging infrastructure.	Cathodic protection & lining to mitigate impacts of deterioration. Inspections for compliance with design standards during installation and repairs. Monitoring and reporting on water loss volumes. Risk-based prioritization of replacements.	Some minor levels of water loss.
Aging appurtances include hydrants and valves.	Valve inspection and turning program. Annual fire hydrant inspection and tear-down program. Meter replacement program and replacement with AMI meters.	Increased resources associated with maintaining appurtenances as assets naturally age.

Table 14 - Service Risk and Mitigation Measures

Proposed Levels of Service Performance

Proposed Levels of Service have been considered across the asset lifecycle, financially costed, and analyzed for risk. To quantify service levels, the performance measures identified by Managed Service Delivery can be projected out to 2034. These service levels will be monitored and reviewed annually. The Town's proposed levels of service measures are:

Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Percentage of existing assets not due for replacement	97%	96%	95%	95%	95%	94%	94%	94%	93%	93%
Number of watermain breaks	23	22	21	20	20	19	19	19	19	19
The total number of available connection days per year due to water main breaks compared to the total number of properties connected to the municipal water system.	99. 99926%	99. 99931%	99. 99934%	99. 99938%	99. 99939%	99. 99940%	99. 99943%	99. 99943%	99. 99942%	99. 99941%
Percentage of properties where fire flow is available.										N/C
Percentage of properties connected to the municipal water system										N/C
The number of connection days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system										N/C

Table 15 - Proposed Levels of Service Performance

N/A - Not Applicable
N/C - No change

Financial Summary

Throughout the Proposed Levels of Service process, the Town defined several financial strategies to achieve its proposed levels of service. These included:

- Increasing asset renewal funding through a wide range of reserve management methods focused on larger contributions, balancing risk and affordability.
- Planning asset growth in-line with population growth, and including development charges and assessment growth as part of asset financial planning.
- Maintaining operations and maintenance funding at current levels to support consistent annual lifecycle activities.
- Integrating asset management planning with the annual budget process so initial estimates and recommendations can be refined to incorporate detailed designs, capital delivery capacity, and operations and maintenance impacts of changes in assets.

When each analysis is combined, the total cost of the asset lifecycle over the next 10 years can be summarized as follows:

Financial Impact by Year	Existing Assets			Growth Assets		
	Base Operating Costs	Proposed Replacement Capital Spending	Cumulative Capital Shortfall	One-Time Capital for Growth	Annual Operating Impacts of Growth	Annual Reserve Contributions for Growth
2025	$3,596,931	$3,346,280	($19,131,326)	$3,031,138	$21,363	$50,536
2026	$3,596,931	$3,546,405	($23,331,398)	$7,713,435	$59,982	$142,510
2027	$3,596,931	$3,946,329	($25,607,467)	$0	$59,982	$142,510
2028	$3,596,931	$4,346,289	($28,393,867)	$4,207,540	$84,293	$200,784
2029	$3,596,931	$4,746,427	($32,002,143)	$0	$84,293	$200,784
2030	$3,596,931	$5,046,373	($38,057,604)	$0	$84,293	$200,784
2031	$3,596,931	$5,546,331	($40,479,987)	$16,404,548	$180,987	$427,054
2032	$3,596,931	$5,946,365	($39,529,339)	$0	$180,987	$427,054
2033	$3,596,931	$6,446,357	($46,292,279)	$0	$180,987	$427,054
2034	$3,596,931	$6,846,352	($40,143,931)	$0	$180,987	$427,054

Table 16 - Total Cost of Asset Lifecycle over 10 Years

Managing Shortfalls

It is understood that an infrastructure funding gap is common among municipalities. Studies have shown Canadian municipalities carry a disproportionate burden for infrastructure investments, relative to the municipal share of all governmental funding seen in Canada. Based on Statistics Canada benchmarking, the Town is in a better than average position for its infrastructure assets. The Town is committed to optimizing the use of limited funds to provide strong services to the community while continuing to seek additional funding. Each stream of service delivery was considered for funding impacts. There were funding shortfalls that could not be addressed, resulting in the Town's proposed levels of service:

Service Delivery	Total Shortfall Over 10 Years
Capital	($40,143,931)
Operating	$0
Growth	$0

Table 17 - Proposed Levels of Service Funding Shortfall Summary

Based on the Town's Proposed Levels of Service, the Town will move forward with the adopted financial strategy conceding the shortfall and the associated trade-offs. The Town will continue to seek additional funding opportunities identified in the Fiscal Strategy and will monitor performance for future updates.

08 Conclusion

Newmarket's asset management planning process advances the Town's objectives for financial sustainability, and demonstrates a commitment to Town values of being Well Beyond the Ordinary. Asset management is a continuous improvement process. Through iterations of development and implementation, new asset management capabilities can develop and others can improve.

The Asset Management Plans is a significant milestone, and part of a broader implementation of asset management capabilities by the Corporate Asset Management Office and Town business units. The Town will review and update asset management plans every five (5) years. Plans will be approved and endorsed by Town Council.

Asset management is not a document or a software. It is a way of doing business every day, and a lifelong journey to improve the Town. Through this journey, the Town can truly become Well Beyond the Ordinary.

2025

Wastewater Asset Management Plan

Newmarket

Acknowledgements

Development & Infrastructure Services Commission
Public Work Services – Water And Wastewater
Engineering Services
Data Analytics And Geospatial Services
Financial Services
Corporate Asset Management
Asset Management Steering Committee
Infrastructure Solutions Inc.

02 Table of Contents

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03 Know Your Assets

The Town is responsible for $3 Billion+ of assets. Assets exist to provide services to the community. Their ability to deliver services depends on Town stewardship and informed decision making. As assets age, they have to be repaired or replaced.

Key takeaways:

- What do we own?
- What condition is it?
- What would it cost to replace?

Know Your Assets

Know Your Assets is the first section of the asset management plan and sets the foundation for analysis by providing an understanding of what assets the Town owns. It details the characteristics, history, age, condition, and replacement cost of the assets. This information helps inform the current state of infrastructure. The contents of this plan are based on 2023 data.

Context for State of Infrastructure

The State of the Infrastructure will combine inventory quantities, replacement costs, and condition ratings to provide a detailed breakdown of the asset portfolio. The inventory has been organized in a hierarchy to reflect the asset types providing the service, and to support reporting and planning. The Town's inventory for the Wastewater service area is organized in Figure 1.

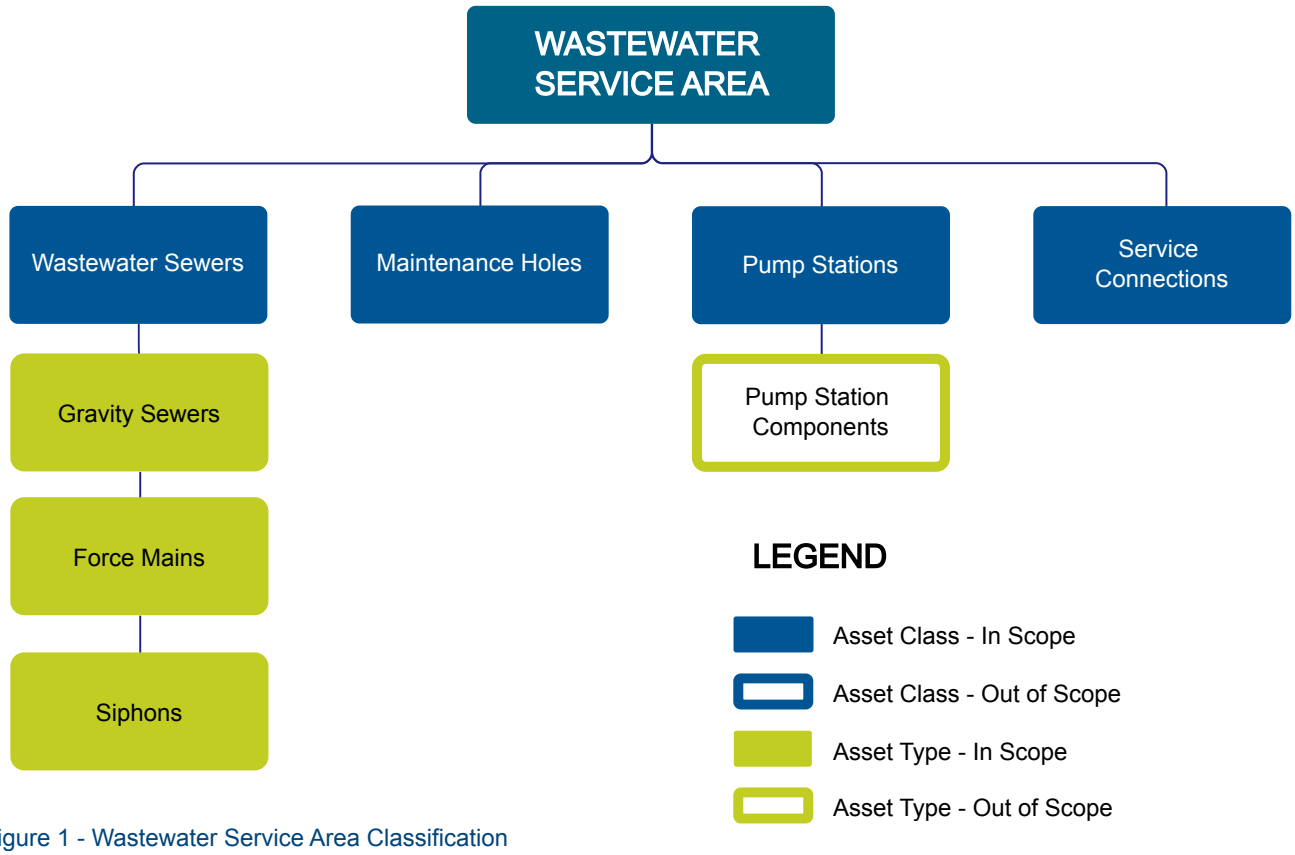


Figure 1 - Wastewater Service Area Classification

Condition Index

Based on age or visual engineering observations, condition indicates the level of service and likelihood of failure for an asset. Assets are assigned condition ratings on a 5-point scale. Ratings are assigned based on age or condition assessment data where available. Photos are included to illustrate differences in condition and service quality.

Illustration of Levels of Service through Asset Condition

Condition influences service quality and levels of service are based on condition as forecasted in the Financial Strategy. To illustrate this impact, a collection of images has been collected depicting the differences in condition and levels of service.

Very Good 90-100

The asset is future-ready. It is in excellent condition, well-maintained, and recently constructed or rehabilitated. It can reliably meet service needs with minimal intervention.

Good 70-90

The asset is performing well. It meets all service expectations and is supported by proactive maintenance to sustain its condition as it progresses through the early-to-mid stages of its expected service life.

Fair 35-70

The asset is functioning adequately with some active maintenance. It shows some visible signs of aging and wear.

Approaching Replacement Need 20-35

The asset is approaching the eventual end of its service life with noticeable signs of moderate deterioration. Some components beginning to require closer monitoring to maintain reliable performance and targeted maintenance is required to maintain service levels.

Ready for Replacement 0-20

The asset has reached the end of its optimal service life and is a candidate for replacement. While functional, it is not delivering services at the optimal level. There are potential increased risks of service disruption. Maintenance efforts are focused on managing risks, minimizing disruptions, and preserving functionality to provide service levels until replacement occurs.

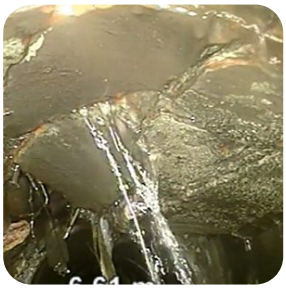


Figure 2 - Asset Condition Photo Illustration

Newmarket

Wastewater

STATE OF INFRASTRUCTURE

Based on data as of December 31, 2023

INFRASTRUCTURE PURPOSE

Provide safe and reliable wastewater collection services from homes and businesses to regional trunk sewers.

KEY NOTES

Replacement Value: $712 Million

Inventory: Sewers: 284 km
Maintenance Holes: 4,569
Pumping Stations: 6

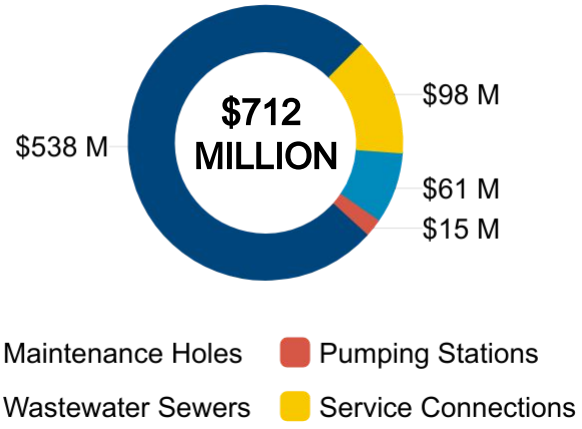
Average condition: Fair

Average age: 31 years
Average Remaining Life: 49 years

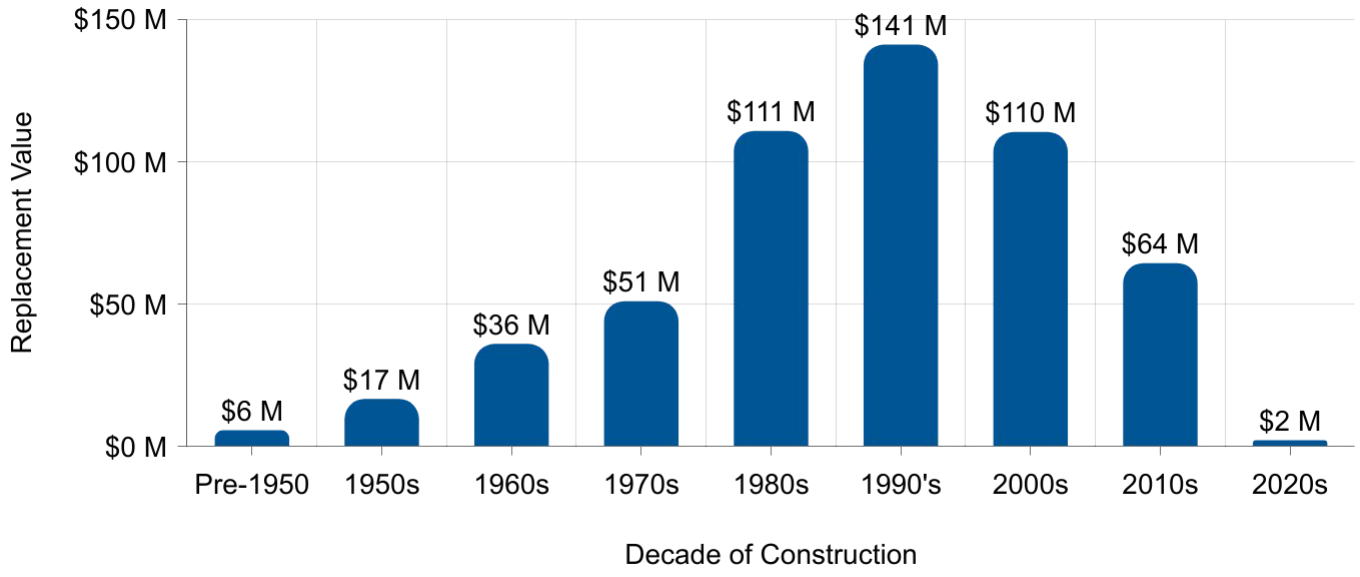
INVENTORY

Wastewater Assets	Inventory
Wastewater Sewers	284 km
Maintenance Holes	4,569
Pumping Stations	6
Service Connections	217 km

REPLACEMENT VALUE



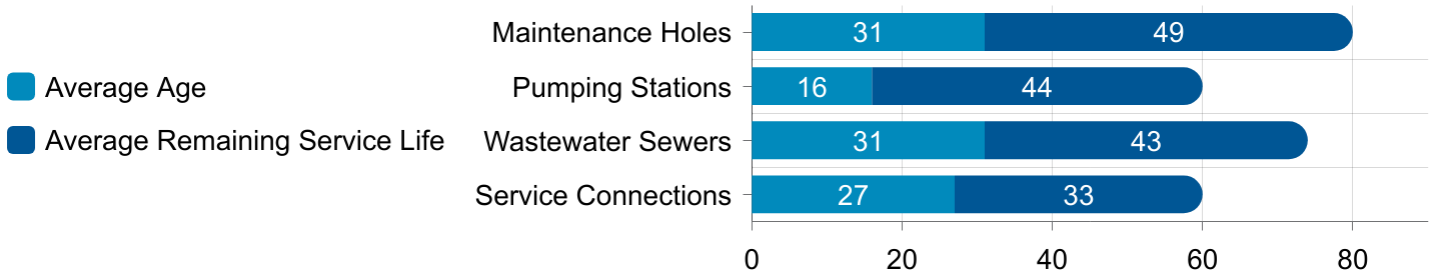
SEWER CONSTRUCTION BY DECADE



Wastewater

STATE OF INFRASTRUCTURE

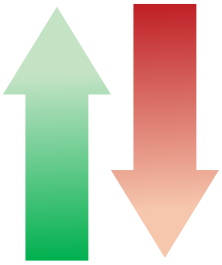
AVERAGE AGE & REMAINING SERVICE LIFE



LEGEND

Very Good | Good | Fair | Approaching Replacement Need | Ready for Replacement

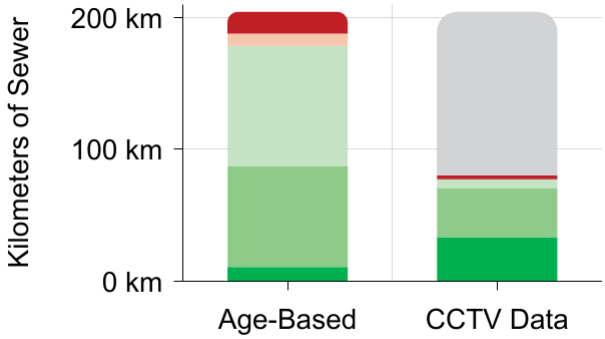
CONDITION CHANGES SINCE 2022



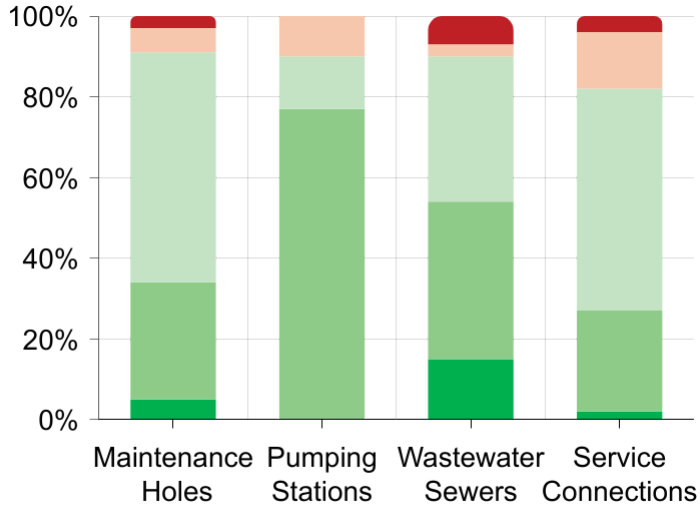
Assets moving in the ranges of very good, good. and fair from **82% to 88%**

Asset moving in the ranges of approaching replacement need and ready for replacement from **18% to 12%**

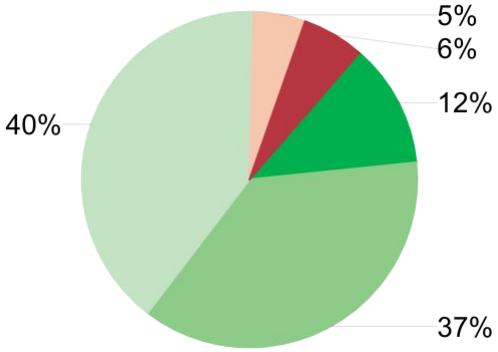
CONDITION APPROACH - SEWERS



CONDITION BREAKDOWN



CURRENT CONDITION



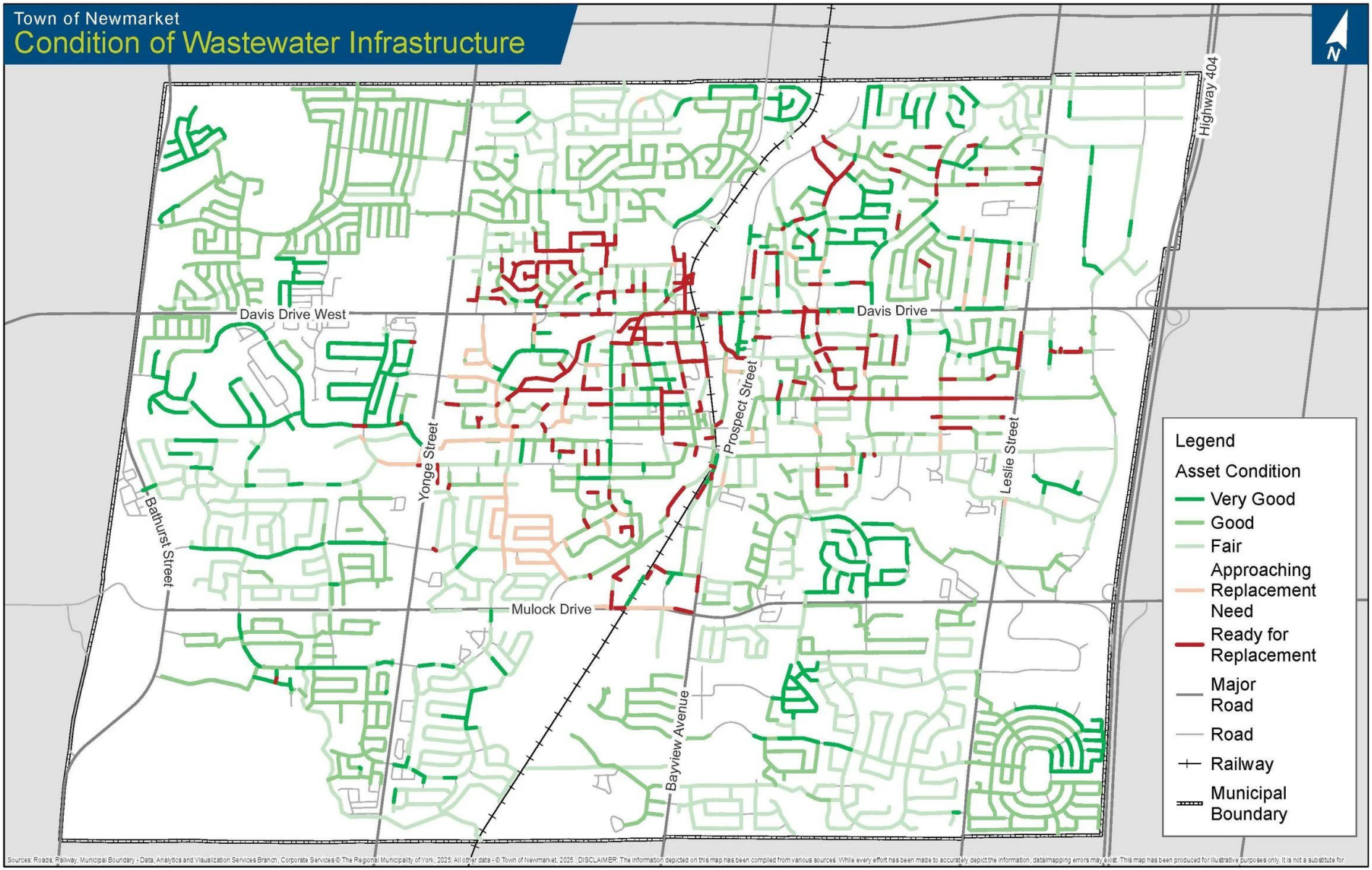
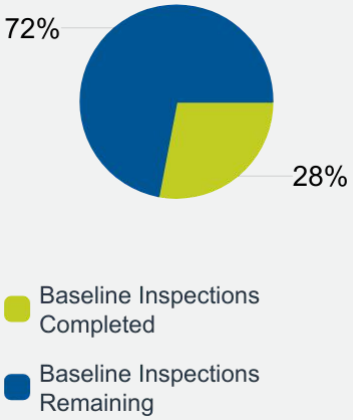


Figure 3 - Asset Scope and Condition Map

Condition Assessment Plan

Condition assessments increase knowledge of the assets, monitor performance, and refine financial projections. The Town currently uses a mix of age based and field condition assessment to determine asset condition.

Summary of Progress Towards Baseline Inspection Data



Age-Based Assessment:
Complete

Field-Based Assessment: 28% Complete
Next Assessment:
Ongoing - 2025

Follow Up Condition Monitoring:
Assessments conducted as needed based on risk, following NASSCO's PACP specifications

04 Manage Service Delivery

Asset management is a way of doing business every day. It requires processes to balance the services provided, the risks associated and the cost.

Key takeaways:

- What services do we provide?
- What activities support service delivery?
- What are the risks of our services?

Manage Service Delivery

The Manage Service Delivery section focuses on how asset management balances trade-offs to deliver value. The expenses the Town incurs over the lifecycle of the asset are taken with the goal of ensuring residents and business continue to receive exceptional service from the Town.

Measuring Levels of Service

Levels of Service (LoS) are measured by the service outcomes, asset performance, and supporting activities. They act as guiding benchmarks that inform operations, influence decision-making, and support the effective functioning and safety of assets and service delivery.

Customer Levels of Service

This is the level of service statement the Town commits to providing the customers.

Technical Measure

This is the technical and quantifiable measure of the customer level of service statement. This includes levels of service required by the Province for public reporting under Ontario Regulation 588/17.

These measures provide a framework for monitoring performance, identifying areas for improvement, and ensuring that operational activities align with overall safety and functional requirements.

Levels of Service Alignment

The LoS measures are organized to create alignment between Town strategic objectives, a corporate goal for the service and the subsequent service criteria and technical/customer measures. The benefit of this approach is ensuring the broader goal and outcomes of a service can be monitored and addressed through specific measures and actions. The result of this process is shown on the following page.

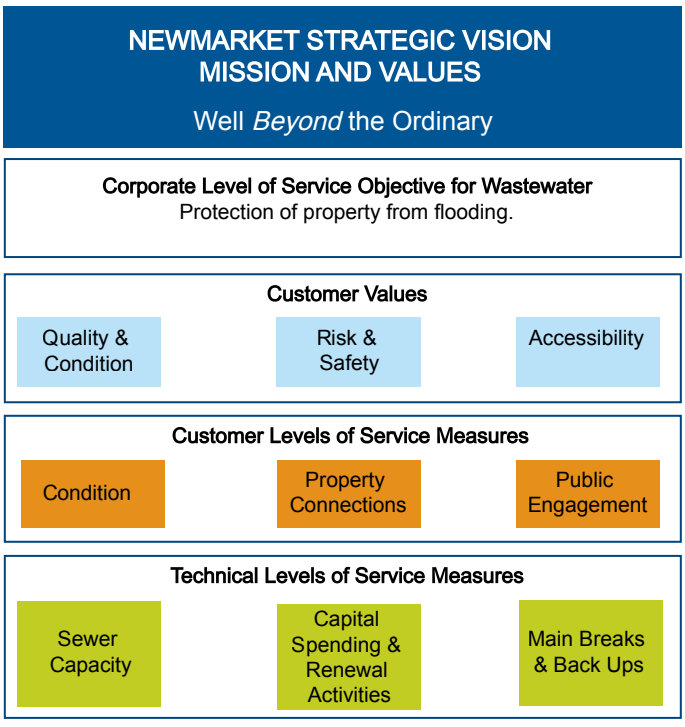


Figure 4 - Levels of Service Alignment

Performance and Results

Levels of service results are presented below using the metrics developed for the Wastewater Asset Management Plan.

Customer LOS Statement	Technical LOS Measure	2023 Performance	Proposed 2034 Performance
Wastewater connection is accessible and available.	Percentage of properties connected to the municipal wastewater system	97.08%	No change
Wastewater system is well managed.	Percentage of existing assets not due for replacement	93	89
Wastewater system is reliable.	The number of events per year where flow in municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	2	No change
	The number of connection days per year due to backups compared to the total number of properties connected to the municipal wastewater system.	99.999998%	No change
	The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	0	No change

Table 1 - Current and Proposed Performance and Results

The Town is not proposing any operational service levels changes at this time as current service levels are appropriate as experienced by the community. Any changes in numbers shown in the proposed performance table are due to aging assets (which lowers condition) or asset rehabilitation (which improves condition). Any potential future adjustments will be assessed based on operational needs, stakeholder feedback, and emerging industry best practices. Performance changes will be documented in future annual update plans.

Legislative Requirements

The Town currently operates within several regulatory requirements. As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

CURRENT LEGISLATIVE REQUIREMENTS

The Town currently operates within several regulatory requirements. Regulations include:

- Environmental Protection Act
- Ontario Water Resources Act
- Licensing of Sewage Work Operators - Ontario Regulation 129/04
- Ministry of Environment, Conservation and Parks - Consolidated Linear Infrastructure Environmental Compliance Approval (CLI-ECA)

As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

NEW UPCOMING LEGISLATIVE REQUIREMENTS

The review of legislative requirements during the development of this plan found no major upcoming legislative requirements that would impact minimum levels of service requirements for the operations and maintenance of Wastewater assets.

Lifecycle Activities

This table outlines business practices employed by the Town to manage assets and services throughout their lifecycle.

Wastewater Sewer Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Wastewater connection is accessible and available.	Wastewater system is well managed and reliable.
Acquire and Commission	Construct new wastewater mains.	✓	✓
Operations, Maintenance, and Inspections	Sewer Line Rapid Assessment Tool (SL-RAT) inspection program to prioritize flushing and inspection program.		✓
	CCTV sewer inspections for structural integrity and operational condition		✓
	Flushing	✓	✓
	Inflow & Infiltration Reduction	✓	✓
	Flow monitoring and modelling	✓	✓
Renewal and Rehabilitation	Reactive spot repairs	✓	✓
	Sewer structural lining	✓	✓
	Patching and point repairs	✓	✓
	Open trench rehabilitation		✓
Replacement	End of life replacement		✓
	Upsize sewers for added capacity	✓	✓

Table 2A - Lifecycle Activities - Wastewater Sewer

Lifecycle Activities Continued

Wastewater Pump Station Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Wastewater connection is accessible and available.	Wastewater system is well managed and reliable.
Acquire and Commission	Construct new pump stations.		✓
Operations, Maintenance, and Inspections	Routine operator inspections		✓
	Monthly standby power testing and maintenance		✓
	Wet well cleaning		✓
Renewal and Rehabilitation	Instrumentation replacement and corrosion prevention		✓
	Pump rehabilitation		✓
	Pump replacement		✓
Replacement	Major facility renewal (electrical, mechanical, Instrumentation and process equipment)		✓
	End of life structural rehabilitation		✓

Table 2B - Lifecycle Activities - Wastewater Pump Station

Wastewater Maintenance Hole Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Wastewater connection is accessible and available.	Wastewater system is well managed and reliable.
Acquire and Commission	Construct new wastewater manholes.		✓
Operations, Maintenance, and Inspections	Operational inspections		✓
	Formal inspection program		✓
	Rebuild adjustment units		✓
	Repair benching and parging around pipes as required		✓
	Debris removal		✓
Renewal and Rehabilitation	Replacement of manhole cover/lid		✓
Replacement	End of life replacement		✓

Table 2C - Lifecycle Activities - Wastewater Maintenance Hole

Risk

Risk can be assessed at multiple levels. This plan will evaluate risk from two key perspectives: service-level risk, which pertains to potential impacts that may disrupt the delivery of services to the public and community, and asset-level risk, which focuses on the exposure of the assets themselves.

The chart below illustrates asset risk. The risk assessment was conducted on a risk assessment matrix based on likelihood of failure and the consequence of failure.

WASTEWATER RISK PROFILE

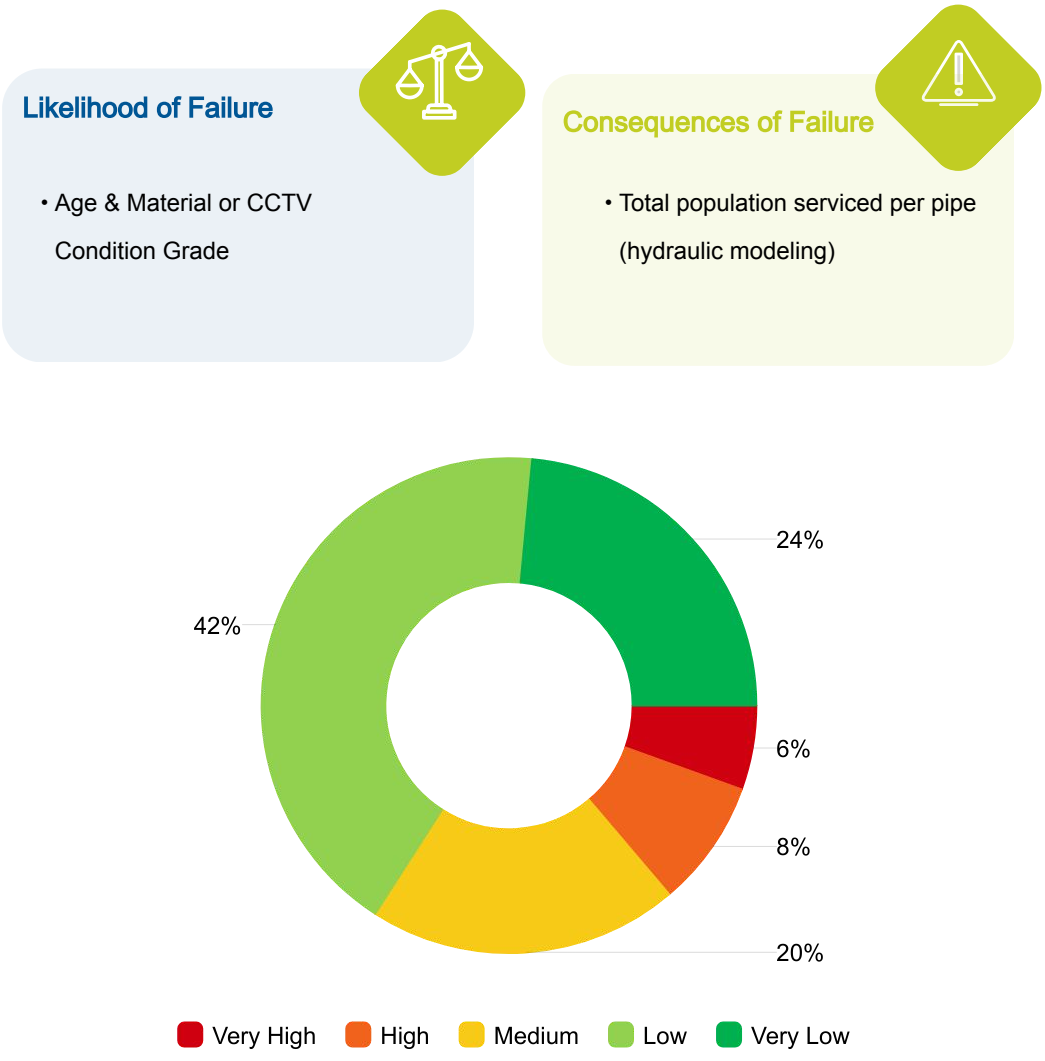


Figure 5 - Asset Risk Profile

05 Future Ready

What was once a small but thriving Town, today Newmarket is a desirable and affordable community. While the future is bright, trends like increasing service expectations, urbanization, and climate change are challenging the status quo. The future will change how the Town manages assets.

Key takeaways:

- What increases in asset-related services are expected?
- How will climate change impact assets?

Future Ready

Ongoing and future trends will impact the way the Town delivers its services and manages its assets. Proactively identifying these trends and pressures allows the Town to account for risk and take advantage of opportunities. Using planning to maintain a future outlook allows for a balance between maintaining present services while managing growth.

The Future Ready section will discuss the following:

Growth

An outlook of forecasted growth in the asset portfolio.

Climate Change

Vulnerabilities and adaption and mitigation approaches to climate change, specifically flooding. Results of a flood risk assessment are provided as flooding is the first of several types of climate considerations to be applied in the future.

Growth Planning in Newmarket & Population

The Town of Newmarket is expected to grow from its current population of approximately 90,700 residents to a future population of 118,500 by 2051 according to provincial and regional plans. At the same time, the employment base is projected to grow from 45,000 to 58,100 jobs.

		2021	2031	2041	2051
Newmarket	Population	90,700	98,900	107,200	118,500
	Employment	47,500	50,600	53,900	58,100

Table 3 - Newmarket Growth in Population and Employment

To support this population, more assets and new types of assets may be required to provide asset-related services and to maintain service levels. The asset management plans reflect planning efforts to coordinate assets and population growth in alignment with the 2019-2028 Development Charges Background Study.

Identified Growth

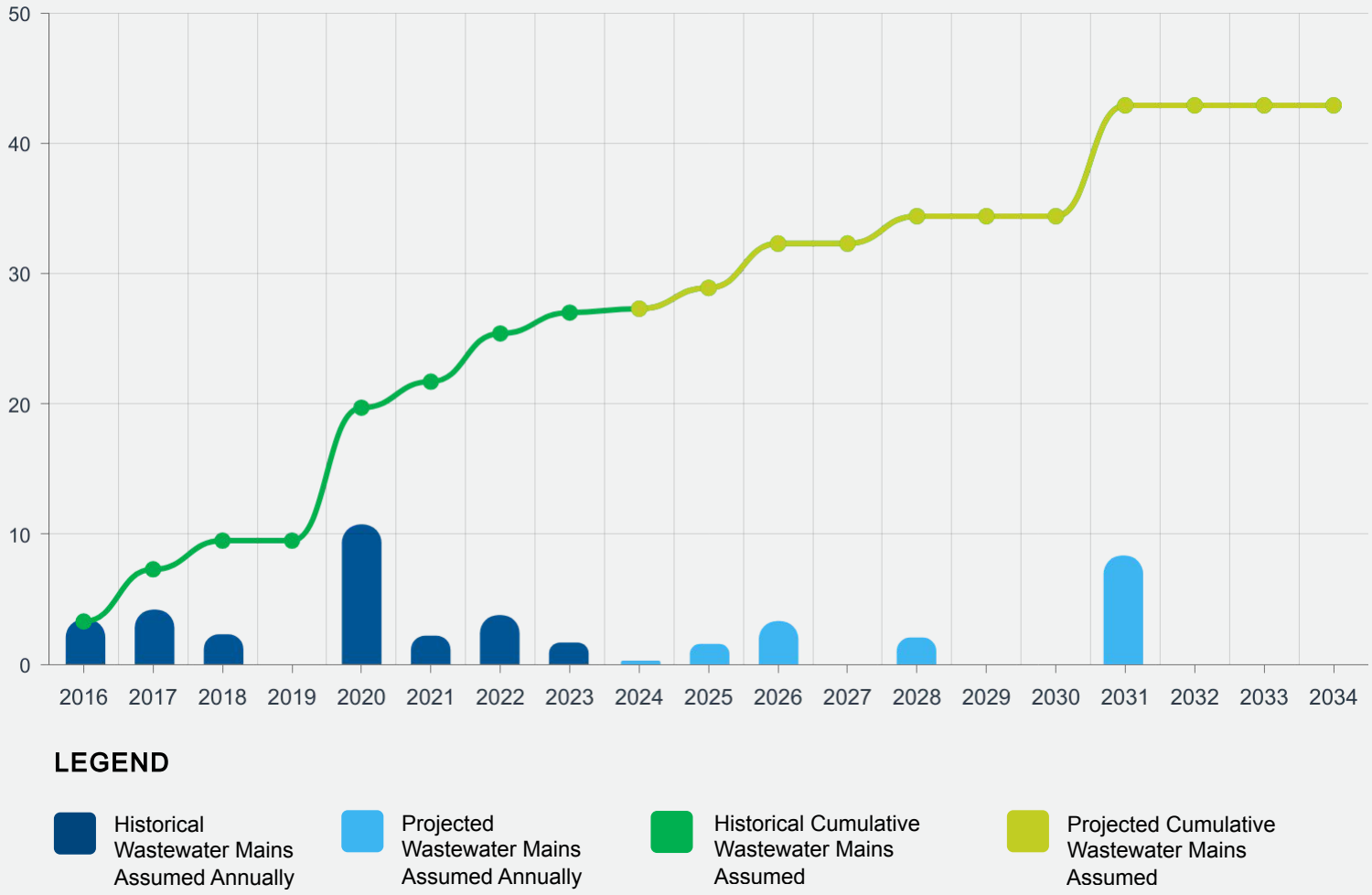


Figure 6 - Historical Assumption and Projected Growth

The following table summarizes asset increases in the asset portfolio. Information on growth values and impacts will be discussed in the Financial Context section.

No new pumping stations expected in the next 10 years.

Years	Wastewater Mains (km)	Wastewater Services
2024	0.3	40
2025	1.6	121
2026	3.4	475
2027	-	-
2028	2.1	410
2029	-	-
2030	-	-
2031	8.5	-
2032	-	-
2033	-	-
2034	-	-
Total	15.9 km	1046

Table 4 - Asset Growth Forecast

Climate Change Assessment

To prepare for climate change impacts, the Town engaged with the Ontario Climate Consortium (OCC) to conduct a corporate-wide flood risk resilience assessment of Town-owned infrastructure. The study used an indicator-based tool to evaluate flood risk based on:

1. **Hazard** – Geospatial factors influencing riverine, overland, and groundwater flooding.
2. **Vulnerability** – Operational, social, economic, and environmental factors affecting an asset's susceptibility to flooding.

PUMP STATIONS FLOOD RISK ASSESSMENT

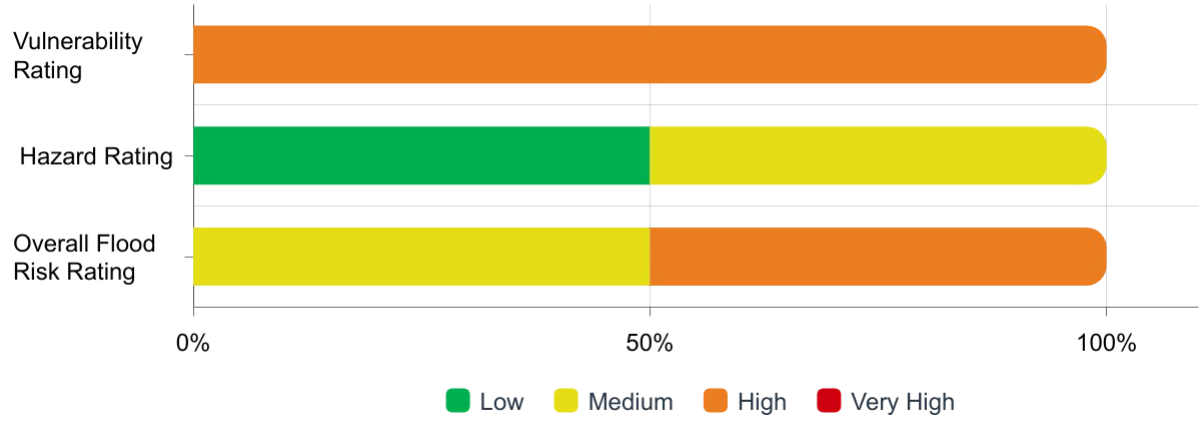


Figure 7 - Flood Risk Assessment Results

06 Financial Context

The Financial Context section brings together the data and analysis from previous sections to provide a clear view of the Town's financial situation regarding its assets. It reviews historical and current practices and future outlook based on anticipated growth. Three scenarios are introduced here to explore different levels of service based on asset condition and funding levels.

Key takeaways:

- What are the Town's current financial practices for asset management?
- What operating budget supports our assets?
- What is the long-term financial impact of growth, based on the total lifecycle of the assets?

Financial Strategy

The sustainability of Town infrastructure depends on effective management and ensuring the optimal use of available funds. The Town of Newmarket has developed a Financial Strategy to evaluate the relationship between current investment levels, service outcomes and risk of service failures. The financing strategy strengthens the budget process by reinforcing a long-term perspective of service levels. The Town modelled and prepared an analysis of three scenarios over a 10-year time horizon to determine the Proposed Levels of Service.

Capital Financial Strategy

The history of the Town's financial contributions and capital spending practices were used to inform the financial analysis conducted. This historical context provides valuable insights into the Town's fiscal health, helping to inform future financial planning and decision-making processes.

Year	Wastewater Reserve Contribution	Reserve Contribution as a Percentage of 2023 Replacement Value
2018	$3,940,703	0.55%
2019	$3,756,246	0.53%
2020	$4,074,673	0.57%
2021	$3,800,000	0.53%
2022	$4,023,288	0.56%
2023	$2,900,000	0.41%

Table 5 - Historical Reserve Contributions

Year	Wastewater Capital Spending on Existing Assets	Capital Spending as a Percentage of 2023 Replacement Value
2018	$672,321	0.09%
2019	$714,649	0.10%
2020	$0	0.00%
2021	$0	0.00%
2022	$2,346,717	0.33%
2023	$1,522,831	0.21%

Table 6 - Historical Capital Spending

Estimated Future Reserve Contributions

The Town's reserve contributions are geared towards long-term financial planning and to balance funding with future renewal costs. These projections will be reviewed each year through internal processes and Council-approved budgets. The Town's increased reserve contributions are part of the rate-supported financial plans for water, wastewater, and stormwater services. The forecasted reserve contributions are based on the customer demand, rates, and expected population growth, along with the economic activity outlined in the Future Ready section. Funding increases for service areas would be proportional, with additional factors from the Reserve & Reserve Fund Review taken into account.

Year	Estimated Future Reserve Contributions
2025	$4,346,351
2026	$4,746,351
2027	$5,046,351
2028	$5,446,351
2029	$5,946,351
2030	$6,146,351
2031	$6,646,351
2032	$7,246,351
2033	$7,446,351
2034	$8,246,351

Table 7 - Estimated Future Reserve Contributions

Wastewater Scenario Methodology

To forecast capital investment need, consolidation of inventory, replacement cost, condition, levels of service, risk, and lifecycle activities as shown throughout the AMP was completed.

Three scenarios were created to answer key questions about current budget, future requirements, sustainability and proposed levels of service. Analysis is carried out in Decision Optimization Tool, the Town's risk-based investment planning software. The scope of the analysis is the capital cost of replacing existing assets. During the annual budget process, these estimates are reviewed and refined with additional cost drivers for staff delivery capacity, operational impacts, and detailed designs.

Scenario	Description of Scenario Constraints and Objectives
1 – Current Budget	The purpose of the current budget scenario is to calculate the level of service achievable with current funding. Scenario parameters are: • Maximize network performance for limited funds. • Based on current funding as of 2025.
2 – Needs Based	The purpose of the needs-based scenario is to calculate the true cost of maintaining the full asset inventory at current service levels for comparison with current practice. Scenario parameters are: • Limit the number of very poor assets to 5%. • Minimize the cost of maintaining asset portfolio but no budget constraint. • Maintain current levels of services.
3 – Proposed Levels of Service	Proposed Levels of Service documents the Town's financial strategy to increase the capital funding of asset replacements in recognition of the prevailing trends of aging assets. This is achieved through alignment with the Town's Fiscal Strategy and the Reserve Fund Review which identifies a path to achieving sustainable asset funding levels through a long-term strategy. This strategy will be further reviewed in the Proposed Level of Service section. Scenario parameters are: • Maximize network performance for limited funds. • Employ risk-based prioritizations within the investment planning software to minimize risk. • Increase asset replacement funding from 2025 levels using the strategies identified in the Reserve Fund Review. Proposed Levels of Service are the basis for the 2025 Asset Management Plans.

Table 8 - Scenario Methodology

Wastewater Scenario Results

The figures on the following pages illustrate how the cost of renewals for different service targets and the condition of Wastewater are forecasted to change over time under all three scenarios.

SCENARIO 1 | CURRENT BUDGET

- Calculate the level of service achievable with current funding.
- Maximize network performance for limited funds.
- Based on current funding as of 2025.

CONDITION FORECAST

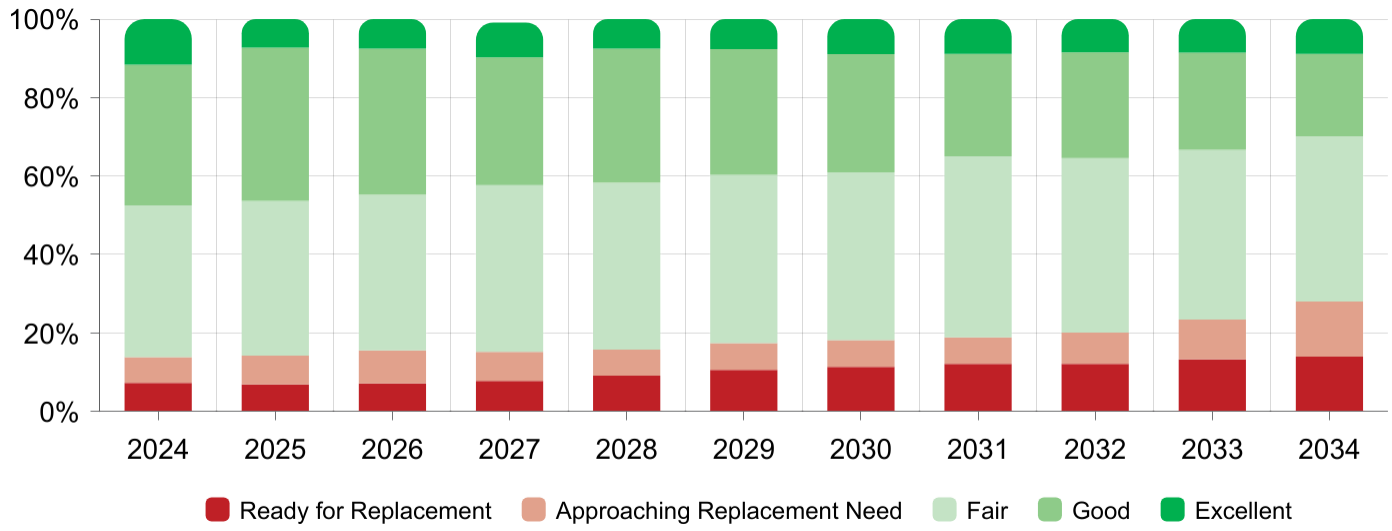


Figure 8 - Forecasted Condition over 10 Years - Current Budget

CAPITAL EXPENDITURE

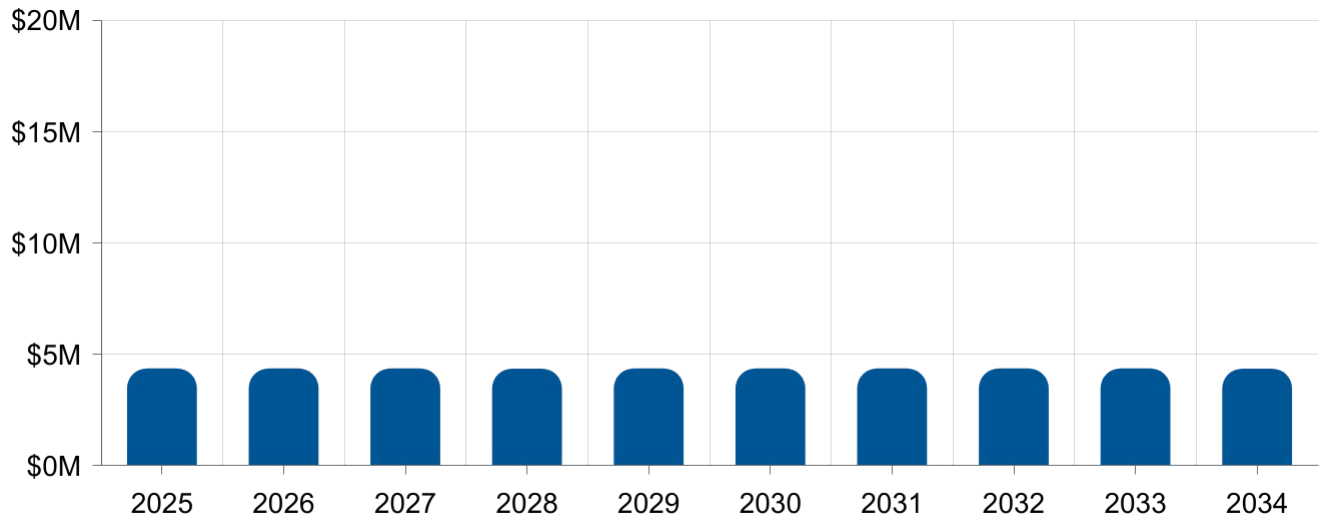


Figure 9 - Forecasted Capital Expenditure over 10 Years - Current Budget

SCENARIO 2 | NEEDS BASED

- Calculate the true cost of maintaining the full asset inventory
- Limit the number of Ready for Replacement assets to 5%
- Minimize the cost of maintaining asset portfolio, but no budget constraint

CONDITION FORECAST

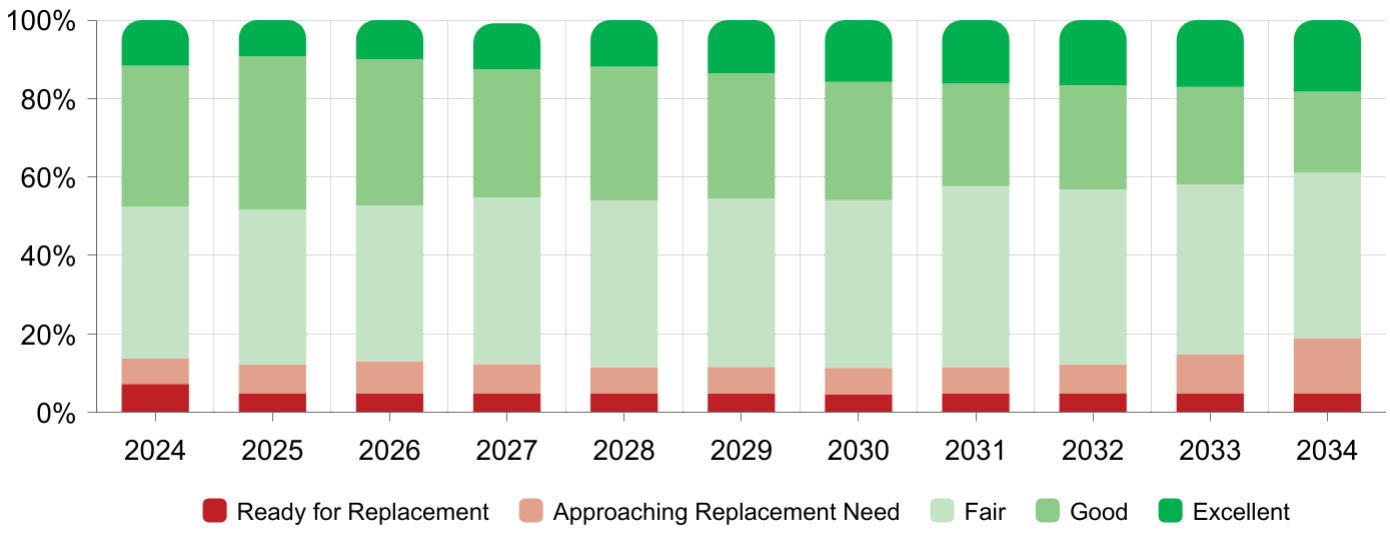


Figure 10 - Forecasted Condition over 10 Years - Needs Based Budget

CAPITAL EXPENDITURE

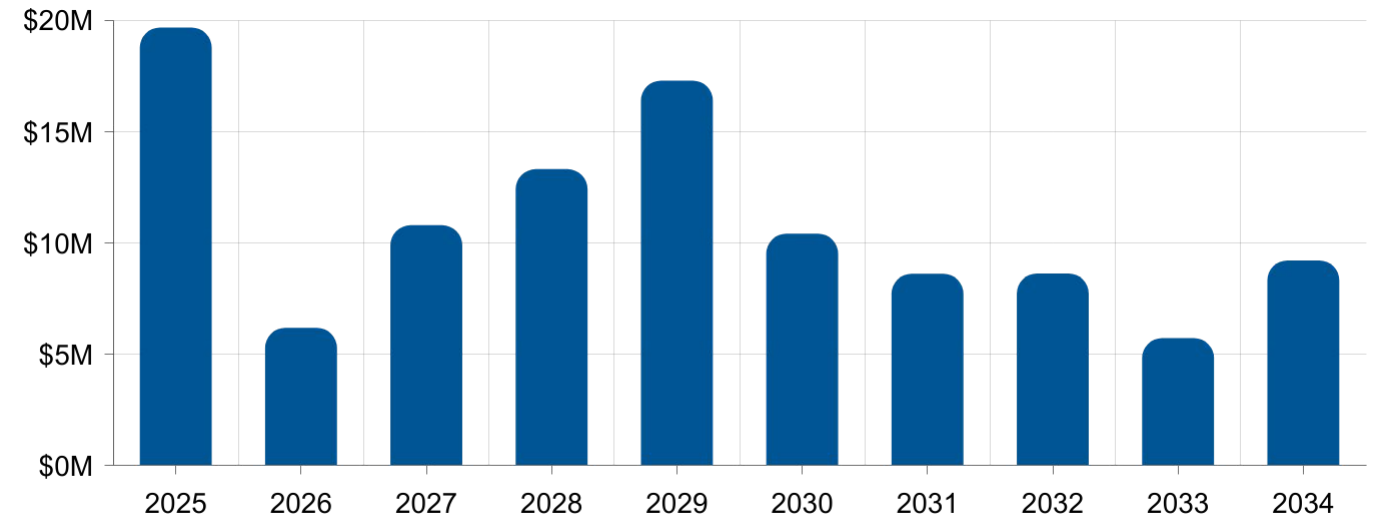


Figure 11 - Forecasted Capital Expenditure over 10 Years - Needs Based Budget

SCENARIO 3 | PROPOSED LOS

- Maximize network performance for limited funds.
- Employ risk-based prioritizations to minimize risk.
- Increase asset replacement funding as identified in the Reserve Fund Review.

CONDITION FORECAST

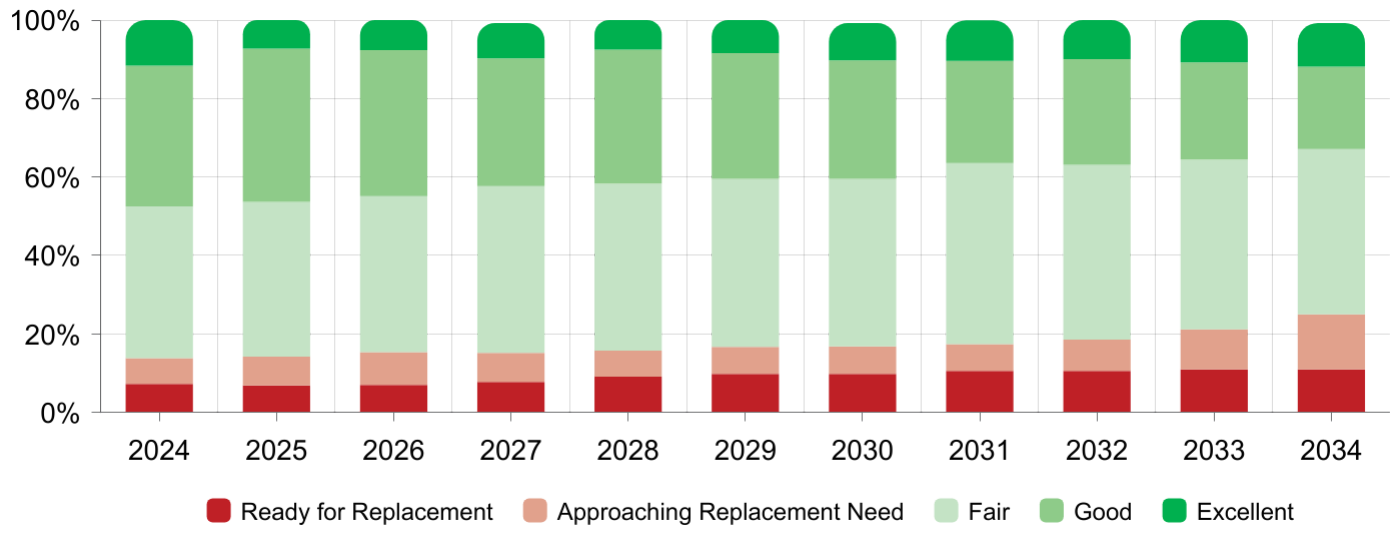


Figure 12 - Forecasted Condition over 10 Years - Proposed LOS Budget

CAPITAL EXPENDITURE

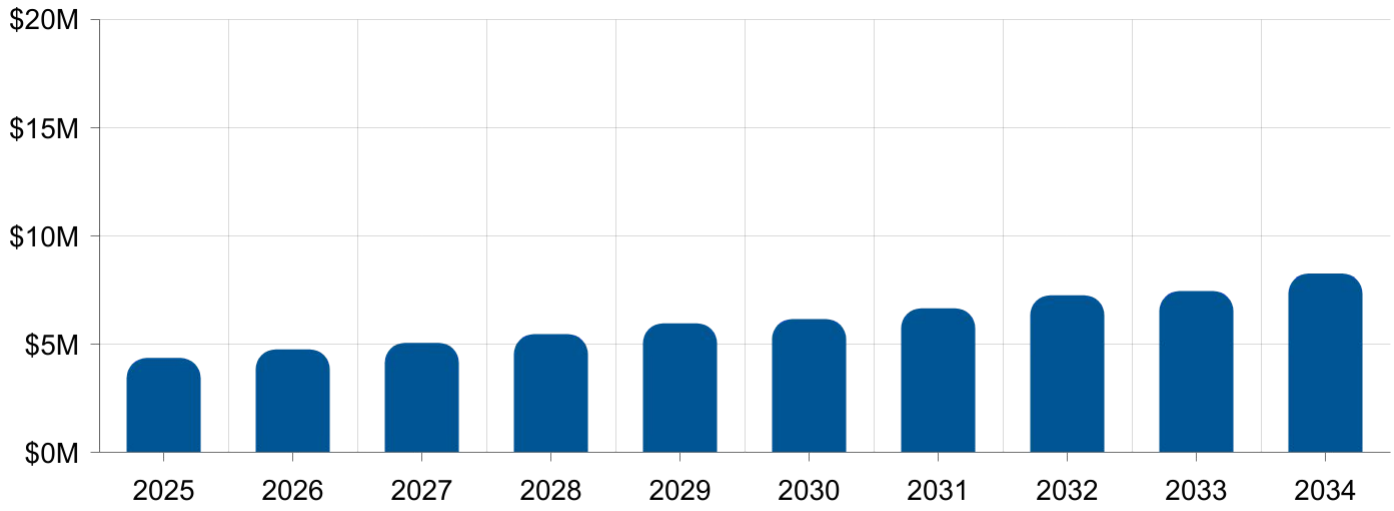


Figure 13 - Forecasted Capital Expenditure over 10 Years - Proposed LOS Budget

Operations & Maintenance

Using the Town's framework for lifecycle activities, the Town's operations and maintenance budget reflects the cost of delivering asset-related services for the activities occurring after acquisition and outside of rehabilitation, replacement, and decommissioning. These are listed in Manage Service Delivery.

The Town is not proposing levels of service changes to its operational lifecycle delivery, as identified in the performance results shown in Levels of Service section and discussed further in Proposed Levels of Service.

$1.28M
Annual O&M cost for Wastewater assets

Financial Impacts of Growth

When a new asset is commissioned, it begins a lifecycle of service and costs. The total value of growth in assets by replacement value identified in Future Ready is as follows. This asset management value may vary from other estimates which consider local factors, developer agreements, or staff resources needed to support growth.

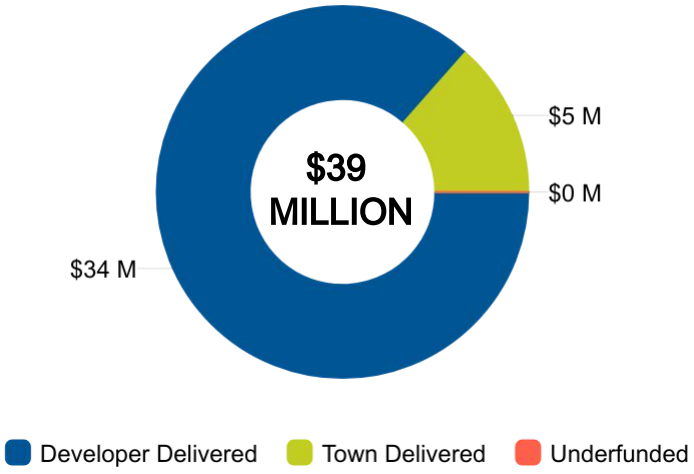


Figure 14 - Total Value of Growth by Funding Source

While providing services, new assets also requires operations, maintenance, and eventual replacement. Acquiring an asset means anticipating future costs, which is essential for financial planning and understanding the total cost of ownership. To reflect this, the Financial Impact of Growth depicts two types of cost: annual O&M cost and reserve fund contribution.

Annual Operating Impact

The annual operating impact reflects the cost of maintaining assets at current service levels, including inspections, cleaning, and energy use. These costs are estimated by scaling current service levels to match growth and are measured in operating dollars per year. Using the asset quantities forecasted in Future Ready, the increases in operations and maintenance costs to maintain current service levels over the next 10 years is expected to be as shown below.This forecast will be reviewed and refined through the annual budget process as projects are scoped and operational needs are confirmed.

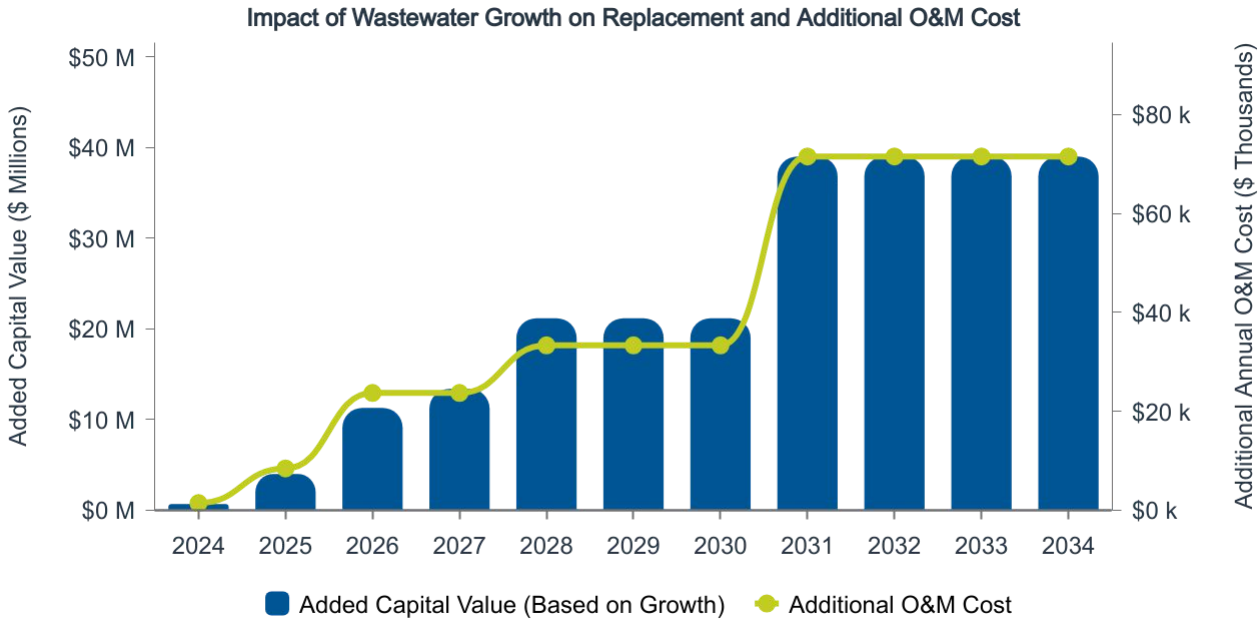


Figure 15 - Impact of Growth on Replacement Cost and Additional Annual O&M Cost

Financial Impacts of Growth - Continued

Reserve Fund Contribution for Sustainable Replacements

Annual reserve contributions ensure funds are available to replace assets at the end of their useful life by spreading costs evenly over time. This prevents a backlog of future replacements and supports asset sustainability. The contribution is calculated by dividing total replacement costs by average asset lifespan. It excludes other capital costs like upgrades, or staff resources to supported added capital delivery. It assumes based on the Town's Reserve Fund Review that the Town can achieve this ratio of funding for all of its assets over time. The graph below shows the increased annual contributions required to sustain future capital replacements.

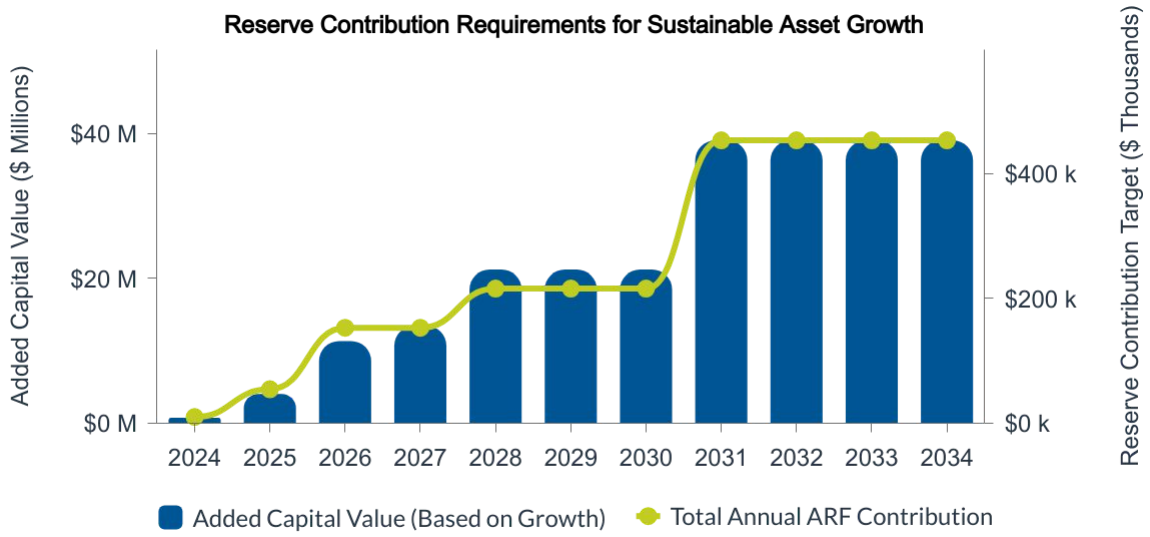


Figure 16 - Reserve Contribution Requirements for Sustainable Asset Growth

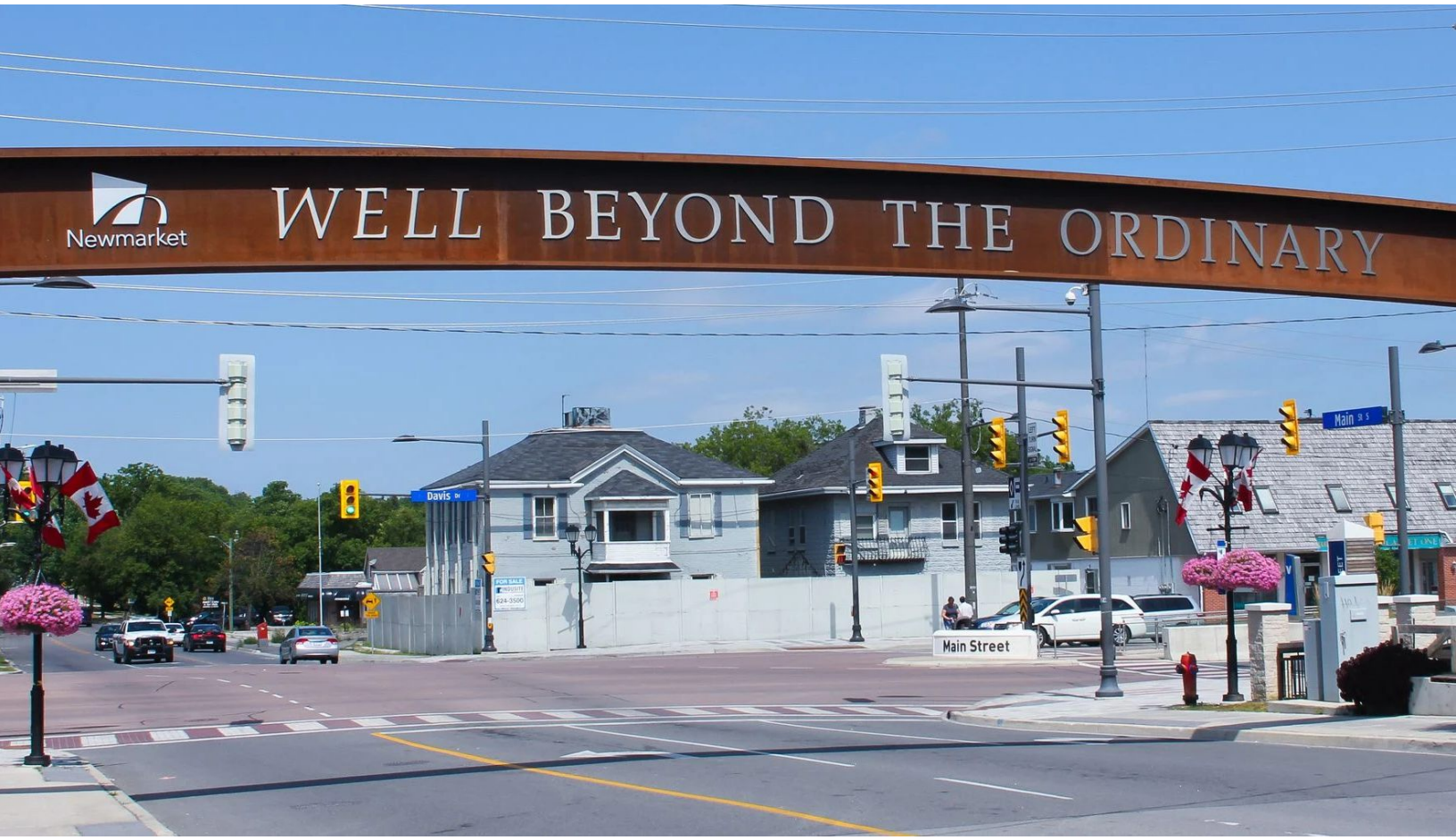
Total Cost of Growth

Accounting for both operations and maintenance costs and reserve contribution requirements, the total estimated annual cost of growth is summarized in the table below. The funding of the growth impacts is discussed further in Proposed Levels of Service.

Financial Impact by Year	Growth in Assets (Replacement Value)	Annual Total O&M Costs	Annual Reserve Contribution Target	Total Annual Financial Impact of Growth (Cumulative)
2024	$685,793	$1,439	$9,189	$10,628
2025	$3,312,669	$7,003	$44,305	$61,936
2026	$7,290,144	$15,260	$97,737	$174,933
2027	$2,108,000	$0	$0	$174,933
2028	$7,788,725	$9,606	$62,152	$246,691
2029	$0	$0	$0	$246,691
2030	$0	$0	$0	$246,691
2031	$17,851,391	$38,209	$238,019	$522,918
2032	$0	$0	$0	$522,918
2033	$0	$0	$0	$522,918
2034	$0	$0	$0	$522,918

Table 9 - Total Cost of Growth Summary over 10 Years

07 Proposed Levels of Service



Proposed Levels of Service forecasts the projected service levels the Town will deliver through its assets using a financial strategy in alignment with O.Reg. 588/17. The Proposed Levels of Service forms the basis for 10-year forecasting, annual budget recommendations, risk management, and performance monitoring. It incorporates information from all previous sections of the asset management plans.

Key takeaways:

- What is the proposed level of service based on a holistic view of the combined factors (cost, level of service, risk)?
- How is the proposed level of service achieved?
- What is the proposed level of service performance forecast?
- What is the financial summary of the proposed level of service?

Proposed Levels of Service

Concluding the Asset Management Plans in accordance with O.Reg. 588/17, Proposed Levels of Service can be summarized based on financial analysis and the information contained throughout the plans.

Levels of Service Achieved Through Capital Renewals and Replacements

The Proposed Levels of Service Scenario including its funding and asset conditions are the Town's selected plan for funding renewals and replacement. It considers risk associated with aging assets against the Town's goals of sustainably providing quality asset-related services at a level that is affordable and appropriate for the community.

Level of Service Option	Rationale	Funding Achieved Over 10 Years	Funding Gap
Scenario 1 Current Budget	Current Budget reflects that the Town currently provides strong levels of funding for maintaining its assets, but what was sufficient for historical levels of renewal will not be appropriate going forward as assets continue to age. The decrease in service levels over 10 years are not a rate that is sustainable or appropriate for the community and would reflect an increase in risk.	$43.46 M	($66.27 M)
Scenario 2 Needs Based Budget	Needs Based expands on Scenario 1 by showing the financial needs associated with maintaining an aging asset portfolio. This shows that the true cost of maintaining the Town's assets is more costly than what the Town currently provides. When combined with a risk-based approach, this was used to inform Scenario #3 Proposed Levels of Service.	$109.73 M	N/A
Scenario 3 Proposed Levels of Service	Proposed Levels of Service aligns with the Town's overarching financial strategy, balancing levels of service, risk, and affordability. It shows some potential decrease in service levels in the short term at a rate that is acceptable when balanced against affordability concerns and risk assessments. The Fiscal Strategy and Reserve Fund Review demonstrates that service levels can be achieved over a longer term. The financial strategies include rate-supported financial plans, increased tax-supported contributions to asset management funds, reserve management and investments, assessment growth, use of provincial and federal grants, interfund-borrowing, annual budgeting, and where allowable a role for external debt funding of capital projects.	$61.26 M	($48.46 M)

Table 10 - Levels of Service Options Funding Gap

Levels of Service Achieved Through Operations and Maintenance

The Town is not proposing any material changes or enhancements to the lifecycle activities and operational service levels. This is because:

- In accordance with the Municipal Act and Town municipal funding practices, the operating budget is considered a sustainable source of funding operations and maintenance through rate and tax-supported annual budgets.
- The current service levels are affordable and appropriate as they are already experienced by the community.
- Maintaining current service levels allows the Town to acquire asset expansions associated with population growth using assessment growth, without further financial impacts. This is part of the Town's Fiscal Strategy.
- The assessed risk of the condition of the assets based on the funding of renewals is within the Town's operational capacity to mitigate potential risks.

Cost of Current Levels of Service	Proposed Levels of Service	Shortfall
$1,281,440.00	No Change	$0

Table 11 - Proposed Levels of Service O&M Funding Shortfall

Levels of Service Maintained With Growth

The expected growth in population demonstrates the need to expand and intensify assets used to maintain service levels. The forecasts of asset growth show increases to the asset portfolio in line with population increases. The Town funds the acquisition, operations and future replacement of growth assets to maintain strong services to the community.These cost estimates do not include the human resources of delivering growth assets.

Value of Assets to Support Proposed Levels of Service through Growth	Value of Developer Delivered Assets	Value of Town Delivered Assets	Shortfall
$39,036,722	$33,766,722	$5,270,000	$0

Table 12 - Growth Capital Funding Shortfall

Once assets are operational, it was shown there is a new operating cost to maintain them. To achieve the Proposed Level of Service for new assets as well as existing assets, the Town incorporates growth principles into its budget process by reserving the use of assessment growth to fund the operations of new assets. This ensures that growth in population, growth in assets, assessment growth, and service levels achieve parity as intended by the Development Charges Act.

Total Operating Impact of Growth for Proposed Levels of Service	Forecasted Operating Budget Allocated Through Assessment Growth	Shortfall
$71,517	$71,517	$0

Table 13 - Growth O&M Funding Shortfall

Service Risk

After considering the trade-offs between service levels and affordability, risk was considered to confirm service levels are appropriate. Risks were identified and mitigated to levels that are appropriate for the community and the Town's operations and maintenance program. Risks associated with the Proposed Levels of Service are:

Service Risk	Mitigation Measures	Residual Risk
Blockages and sewer back-ups associated with sewer condition.	CCTV and SL-RAT Inspection. Flow monitoring. Flushing. Risk-based monitoring.	Minor residual risk of sewer blockages.
Pipe collapse and sinkholes associated with sewer condition.	CCTV and SL-RAT Inspection. Lining and spot repairs. Risk-based monitoring.	Minor residual risk of sewer failures.
Reduced system capacity arising from sewer condition.	Inspections. Flow monitoring. Lining. Grouting & sealing.	Low impacts to system capacity.
Pump station alerts and maintaining aging pump station assets.	Daily inspections & log-books. Maintain and monitor instruments. Replacements and upgrades. Regulatory compliance.	Provincial compliance and multi-step approach limits risk of pump stations.

Table 14 - Service Risk and Mitigation Measures

Proposed Levels of Service Performance

Proposed Levels of Service have been considered across the asset lifecycle, financially costed, and analyzed for risk. To quantify service levels, the performance measures identified by Managed Service Delivery can be projected out to 2034. These service levels will be monitored and reviewed annually. The Town's proposed levels of service measures are:

Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Percentage of existing assets not due for replacement	93%	93%	92%	91%	90%	90%	89%	89%	89%	89%
Percentage of properties connected to the municipal wastewater system										N/C
The number of events per year where flow in municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system										N/C
The number of connection days per year due to backups compared to the total number of properties connected to the municipal wastewater system.										N/C
The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system										N/C

Table 15 - Proposed Levels of Service Performance

N/C - No change

Financial Summary

Throughout the Proposed Levels of Service process, the Town defined several financial strategies to achieve its proposed levels of service. These included:

- Increasing asset renewal funding through a wide range of reserve management methods focused on larger contributions, balancing risk and affordability.
- Planning asset growth in-line with population growth, and including development charges and assessment growth as part of asset financial planning.
- Maintaining operations and maintenance funding at current levels to support consistent annual lifecycle activities.
- Integrating asset management planning with the annual budget process so initial estimates and recommendations can be refined to incorporate detailed designs, capital delivery capacity, and operations and maintenance impacts of changes in assets.

When each analysis is combined, the total cost of the asset lifecycle over the next 10 years can be summarized as follows:

Financial Impact by Year	Existing Assets			Growth Assets		
	Base Operating Costs	Proposed Replacement Capital Spending	Cumulative Capital Shortfall	One-Time Capital for Growth	Annual Operating Impacts of Growth	Annual Reserve Contributions for Growth
2025	$1,281,440	$4,346,327	($15,313,559)	$3,312,669	$8,442	$53,494
2026	$1,281,440	$4,745,610	($16,738,958)	$7,290,144	$23,702	$151,231
2027	$1,281,440	$5,047,098	($22,475,899)	$2,108,000	$23,702	$151,231
2028	$1,281,440	$5,446,235	($30,331,515)	$7,788,725	$33,308	$213,383
2029	$1,281,440	$5,946,239	($41,668,796)	$0	$33,308	$213,383
2030	$1,281,440	$6,146,283	($45,917,628)	$0	$33,308	$213,383
2031	$1,281,440	$6,645,345	($47,873,539)	$17,851,391	$71,517	$451,401
2032	$1,281,440	$7,247,618	($49,240,420)	$0	$71,517	$451,401
2033	$1,281,440	$7,444,179	($47,508,380)	$0	$71,517	$451,401
2034	$1,281,440	$8,248,246	($48,463,329)	$0	$71,517	$451,401

Table 16 - Total Cost of Asset Lifecycle over 10 Years

Managing Shortfalls

It is understood that an infrastructure funding gap is common among municipalities. Studies have shown Canadian municipalities carry a disproportionate burden for infrastructure investments, relative to the municipal share of all governmental funding seen in Canada. Based on Statistics Canada benchmarking, the Town is in a better than average position for its infrastructure assets. The Town is committed to optimizing the use of limited funds to provide strong services to the community while continuing to seek additional funding. Each stream of service delivery was considered for funding impacts. There were funding shortfalls that could not be addressed, resulting in the Town's proposed levels of service:

Service Delivery	Total Shortfall Over 10 Years
Capital	($48,463,329)
Operating	$0
Growth	$0

Table 17 - Proposed Levels of Service Funding Shortfall Summary

Based on the Town's Proposed Levels of Service, the Town will move forward with the adopted financial strategy conceding the shortfall and the associated trade-offs. The Town will continue to seek additional funding opportunities identified in the Fiscal Strategy and will monitor performance for future updates.

08 Conclusion

Newmarket's asset management planning process advances the Town's objectives for financial sustainability, and demonstrates a commitment to Town values of being Well Beyond the Ordinary. Asset management is a continuous improvement process. Through iterations of development and implementation, new asset management capabilities can develop and others can improve.

The Asset Management Plan is a significant milestone, and part of a broader implementation of asset management capabilities by the Corporate Asset Management Office and Town business units. The Town will review and update asset management plans every five (5) years. Plans will be approved and endorsed by Town Council.

Asset management is not a document or a software. It is a way of doing business every day, and a lifelong journey to improve the Town. Through this journey, the Town can truly become Well Beyond the Ordinary.

2025

Stormwater Asset Management Plan

Newmarket

Acknowledgements

Development & Infrastructure Services Commission
Public Work Services – Water And Wastewater
Planning Services - Climate, Environment & Sustainability
Engineering Services
Data Analytics And Geospatial Services
Financial Services
Corporate Asset Management
Asset Management Steering Committee
Infrastructure Solutions Inc.

02 Table of Contents

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03 Know Your Assets

The Town is responsible for $3 Billion+ of assets. Assets exist to provide services to the community. Their ability to deliver services depends on Town stewardship and informed decision making. As assets age, they have to be repaired or replaced.

Key takeaways:

- What do we own?
- What condition is it?
- What would it cost to replace?

Know Your Assets

Know Your Assets is the first section of the asset management plan and sets the foundation for analysis by providing an understanding of what assets the Town owns. It details the characteristics, history, age, condition, and replacement cost of the assets. This information helps inform the current state of infrastructure. The contents of this plan are based on 2023 data.

Context for State of Infrastructure

The State of the Infrastructure will combine inventory quantities, replacement costs, and condition ratings to provide a detailed breakdown of the asset portfolio. The inventory has been organized in a hierarchy to reflect the asset types providing the service, and to support reporting and planning. The Town's inventory for the Stormwater service area is organized in Figure 1.

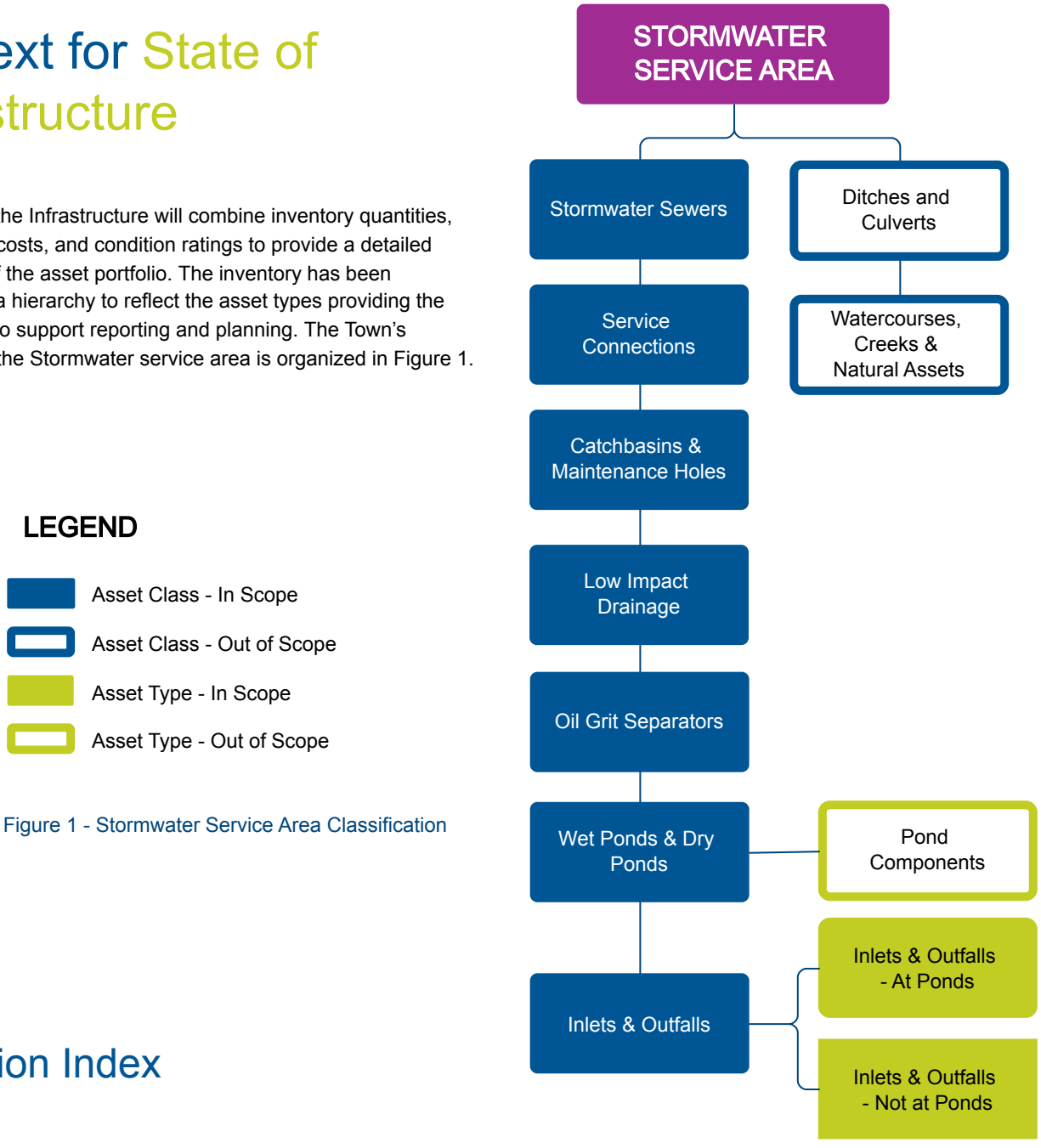


Figure 1 - Stormwater Service Area Classification

Condition Index

Based on age or visual engineering observations, condition indicates the level of service and likelihood of failure for an asset. Assets are assigned condition ratings on a 5-point scale. Ratings are assigned based on age or condition assessment data where available. Photos are included to illustrate differences in condition and service quality.

Illustration of Levels of Service through Asset Condition

Condition influences service quality and levels of service are based on condition as forecasted in the Financial Strategy. To illustrate this impact, a collection of images has been collected depicting the differences in condition and levels of service.

Very Good 90-100

The asset is future-ready. It is in excellent condition, well-maintained, and recently constructed or rehabilitated. It can reliably meet service
needs with minimal intervention.

Good 70-90

The asset is performing well. It meets all service expectations and is supported by proactive maintenance to sustain its condition as it progresses through the early-to-mid stages of its expected service life.

Fair 35-70

The asset is functioning adequately with some active maintenance. It shows some visible signs of aging and wear.

Approaching Replacement Need 20-35

The asset is approaching the eventual end of its service life with noticeable signs of moderate deterioration. Some components beginning to require closer monitoring to maintain reliable performance and targeted maintenance is required to maintain service levels.

Ready for Replacement 0-20

The asset has reached the end of its optimal service life and is a candidate for replacement. While functional, it is not delivering services at the optimal level. There are potential increased risks of service disruption. Maintenance efforts are focused on managing risks, minimizing disruptions, and preserving functionality to provide service levels until replacement occurs.

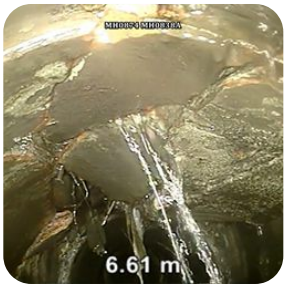


Figure 2 - Asset Condition Photo Illustration

Based on data as of December 31, 2023

Stormwater

STATE OF INFRASTRUCTURE

INFRASTRUCTURE PURPOSE

Protection from flooding. Collection, conveyance, and treatment of stormwater with a mix of green and grey infrastructure.

KEY NOTES

Replacement Value: $858 Million

Inventory: Storm Sewers: 318 km
Maintenance Holes & Catch Basins: 11,574
Oil Grit Separators: 39
Wet Ponds & Low Impact Development: 57

Average condition: Fair

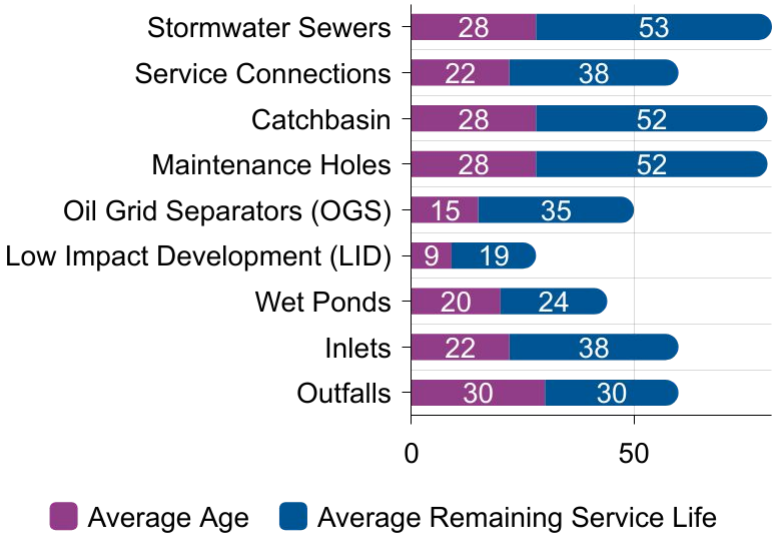
Average age: 27 years

Average Remaining Life: 51 years

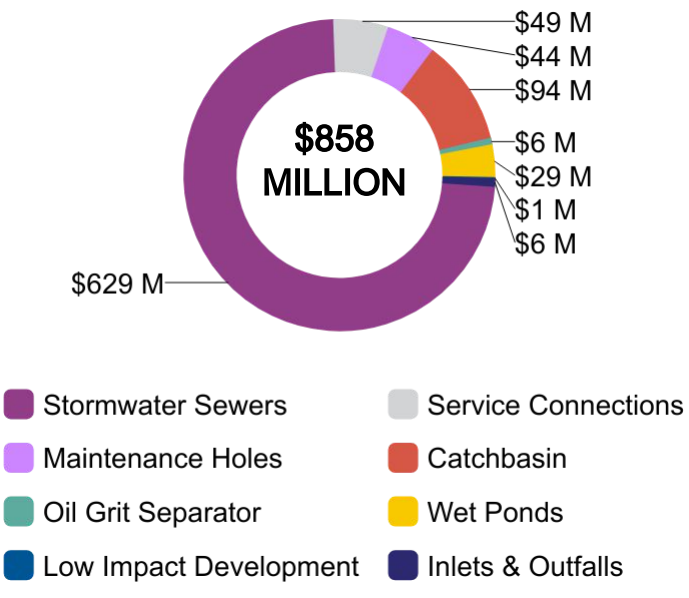
INVENTORY

Stormwater Assets	Inventory
Stormwater Sewers	318 km
Service Connections	77 km
Maintenance Holes	3,677
Catchbasin	7,897
Oil Grit Separators	39
Stormwater Management Ponds (Wet Ponds)	36
Low Impact Developments	21
Outfalls	224
Inlets	147

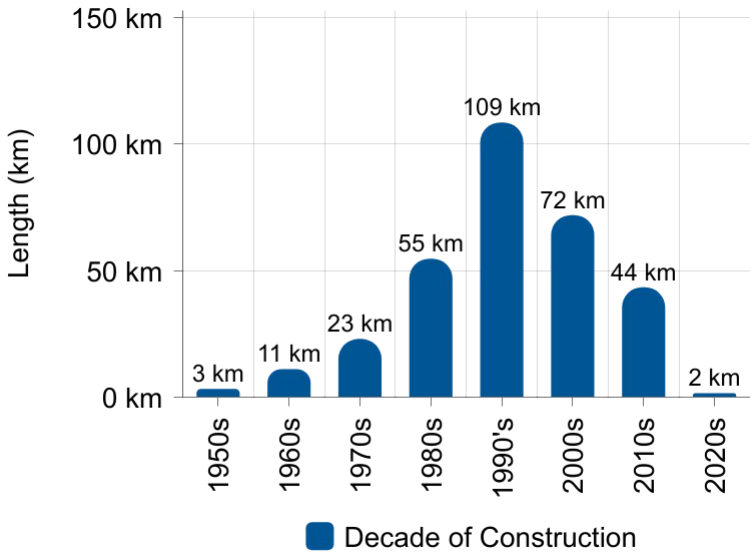
AVERAGE AGE & REMAINING SERVICE LIFE



REPLACEMENT VALUE



STORM SEWER CONSTRUCTION BY DECADE



Stormwater

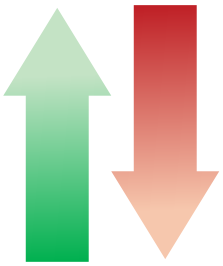
STATE OF INFRASTRUCTURE

LEGEND

Very Good | Good | Fair | Approaching Replacement Need | Ready for Replacement

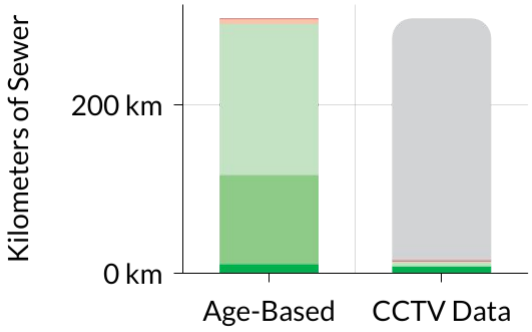
CONDITION CHANGES SINCE 2023 REPORT CARD

Assets moving in the ranges of very good, good, and fair from **94% to 96%**

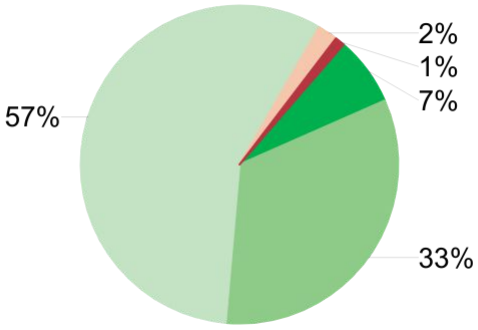


Asset moving in the ranges of approaching replacement need and ready for replacement from **6% to 4%**

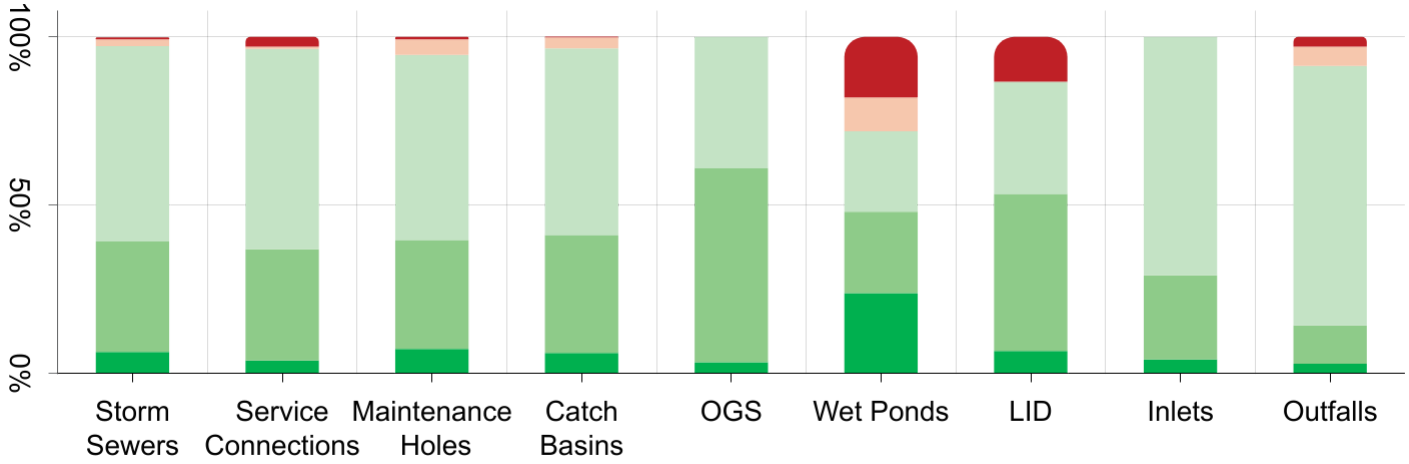
CONDITION APPROACH - STORM SEWERS



CURRENT CONDITION



CONDITION BREAKDOWN



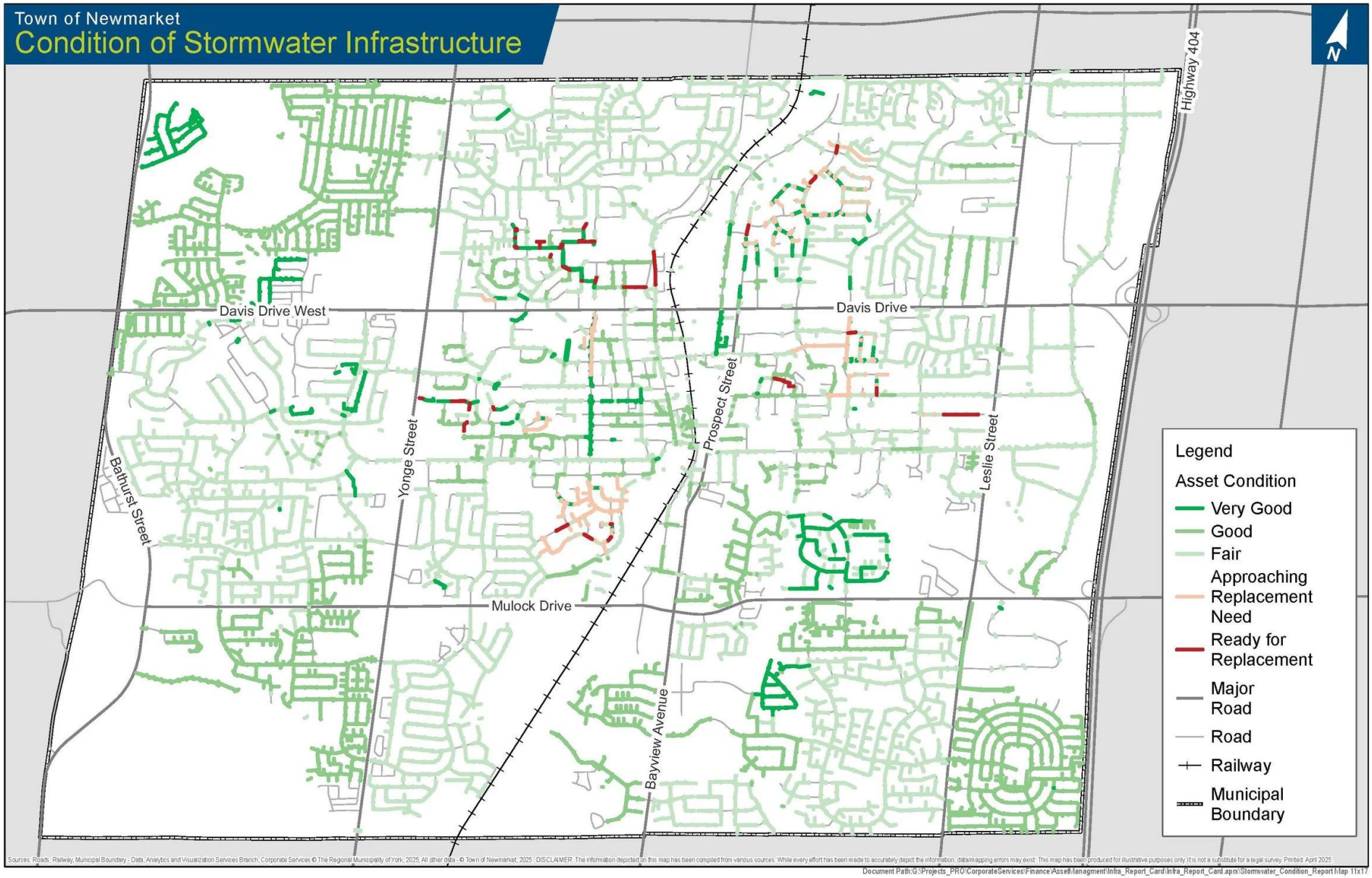
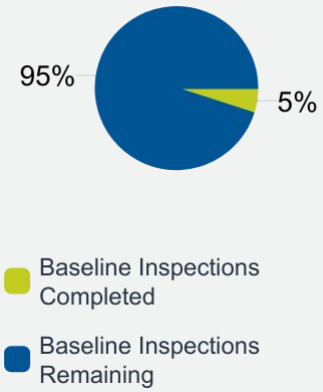


Figure 3 - Asset Scope and Condition Map

Condition Assessment Plan

Condition assessments increase knowledge of the assets, monitor performance, and refine financial projections. The Town currently uses a mix of age based and field condition assessment to determine asset condition.

Summary of Progress Towards Baseline Inspection Data



Age-Based Assessment:
Complete

Field-Based Assessment: 5% Complete
Next Assessment:
Ongoing - 2025

Follow Up Condition Monitoring:
Assessments conducted as needed based on risk, following NASSCO's PACP specifications

04 Manage Service Delivery

Asset management is a way of doing business every day. It requires processes to balance the services provided, the risks associated and the cost.

Key takeaways:

- What services do we provide?
- What activities support service delivery?
- What are the risks of our services?

Manage Service Delivery

The Manage Service Delivery section focuses on how asset management balances trade-offs to deliver value. The expenses the Town incurs over the lifecycle of the asset are taken with the goal of ensuring residents and business continue to receive exceptional service from the Town.

Measuring Levels of Service

Levels of Service (LoS) are measured by the service outcomes, asset performance, and supporting activities. They act as guiding benchmarks that inform operations, influence decision-making, and support the effective functioning and safety of assets and service delivery.

Customer Levels of Service

This is the level of service statement the Town commits to providing the customers.

Technical Measure

This is the technical and quantifiable measure of the customer level of service statement. This includes levels of service required by the Province for public reporting under Ontario Regulation 588/17.

These measures provide a framework for monitoring performance, identifying areas for improvement, and ensuring that operational activities align with overall safety and functional requirements.

Levels of Service Alignment

The LoS measures are organized to create alignment between Town strategic objectives, a corporate goal for the service and the subsequent service criteria and technical/customer measures. The benefit of this approach is ensuring the broader goal and outcomes of a service can be monitored and addressed through specific measures and actions. The result of this process is shown on the following page.

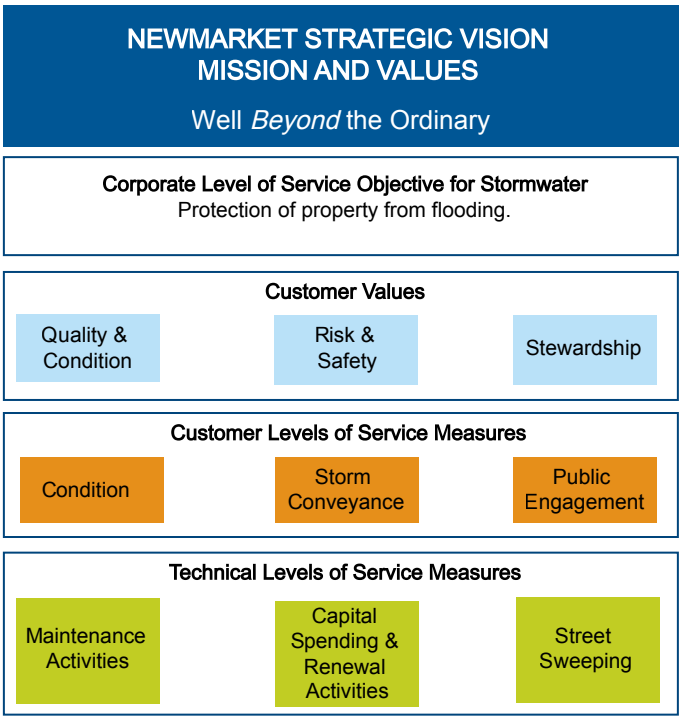


Figure 4 - Levels of Service Alignment

Performance and Results

Levels of service results are presented below using the metrics developed for the Stormwater Asset Management Plan.

Customer LOS Statement	Technical LOS Measure	2023 Performance	Proposed 2034 Performance
Services that protect property from the impacts of flooding	Percentage of existing assets not due for replacement	98%	94%
	Percentage of properties in municipality resilient to a 100-year storm.	98.8%	No change
	Percentage of the municipal stormwater management system resilient to a 5-year storm.	100%	No change

Table 1 - Current and Proposed Performance and Results

The Town is not proposing any operational service levels changes at this time as current service levels are appropriate as experienced by the community. Any changes in numbers shown in the proposed performance table are due to aging assets (which lowers condition) or asset rehabilitation (which improves condition). Any potential future adjustments will be assessed based on operational needs, stakeholder feedback, and emerging industry best practices. Performance changes will be documented in future annual update plans.

Legislative Requirements

The Town currently operates within several regulatory requirements. As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

CURRENT LEGISLATIVE REQUIREMENTS

The Town currently operates within several regulatory requirements. Regulations include:

- Environmental Protection Act
- Ontario Water Resources Act – Section 53
- Lake Simcoe Protection Act and Plan
- Ministry of Environment, Conservation and Parks – Consolidated Linear Infrastructure Environmental Compliance Approval

As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

NEW UPCOMING LEGISLATIVE REQUIREMENTS

The review of legislative requirements during the development of this plan found no major upcoming legislative requirements that would impact minimum levels of service requirements for the operations and maintenance of Stormwater assets.

Lifecycle Activities

This table outlines business practices employed by the Town to manage assets and services throughout their lifecycle.

Stormwater Sewer Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Services that protect property from the impacts of flooding
Acquire and Commission	Construct new stormwater sewers.	✓
Operations, Maintenance, and Inspections	Structural Storage Inspection, Cleaning, and Sluice Gate Operations	✓
	Pre/post check big storms for back-ups, debris, etc.	✓
	Street sweeping to prevent debris buildup	✓
	CCTV Inspections	✓
	Debris removal & flushing	✓
	Spill response	✓
Renewal and Rehabilitation	Sewer structural lining	✓
	Patching and point repairs	✓
	Open trench rehabilitation	✓
Replacement	End of life replacement	✓

Table 2A - Lifecycle Activities - Stormwater Network

Lifecycle Activities Continued

Stormwater Ponds Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Services that protect property from the impacts of flooding
Acquire and Commission	Construct new ponds	✓
Operations, Maintenance, and Inspections	Full annual inspections	✓
	Detailed inspections (contracted)	✓
	Bathymetric surveys	✓
	Environmental monitoring and data loggers	✓
	Clean & inspect pond inlets & outlets	✓
	Pond reactive maintenance (obstructions, washouts, etc.)	✓
	Pond easement maintenance (rough cuts and garbage)	✓
	Boulevard mowing	✓
	Minor pond maintenance (Forestry)	✓
	Minor pond maintenance (without trees) – fence, slopes, etc.	✓
	Install and replace signs	✓
	Spring garbage clean up	✓
Renewal and Rehabilitation	Flood watch at ponds & waterways	✓
	Install decorative fountains	✓
	Manage beaver activity, fire ants, and invasive plants.	✓
	Minor inlet/outlet and grate repairs.	✓
	Repair hard assets (grates, dissipaters, agitators, stone work, etc.)	✓
	Level of service upgrades and pond retrofits	✓
	Basin dredging to remove sediment.	✓
Replacement	Replace hard assets or pond liner.	✓

Table 2B- Lifecycle Activities - Stormwater Ponds

Lifecycle Activities Continued

Catchbasins Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Services that protect property from the impacts of flooding
Acquire and Commission	Construct new catchbasins.	✓
Operations, Maintenance, and Inspections	Inspections	✓
	Vacuuming	✓
	Leaf clearing and debris removal	✓
	Thawing	✓
	Reactive maintenance and storm response	✓
Renewal and Rehabilitation	Repairs and adjustments	✓
	Sealing connections	✓
	Replace grates	✓
Replacement	End of life replacement	✓

Table 2C - Lifecycle Activities - Catchbasins

Inlets and Outfalls Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Services that protect property from the impacts of flooding
Acquire and Commission	Construct new inlets and outfalls.	✓
Operations, Maintenance, and Inspections	Remove debris accumulated at inlets and outfalls	✓
	Pre/post storm checks	✓
	Inlet/outfall Inspections	✓
	Vegetation management	✓
	Replace hinges	✓
	Creek debris and tree removal	✓
	Remove ice floods	✓
Renewal and Rehabilitation	Grate repairs	✓
	Reinstate erosion protection	✓
Replacement	End of life replacement	✓

Table 2D - Lifecycle Activities - Inlets and Outfalls

Lifecycle Activities Continued

Low Impact Development (LID) Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Services that protect property from the impacts of flooding
Acquire and Commission	Commission new LIDs	✓
Operations, Maintenance, and Inspections	Install LIDs during capital projects.	✓
	Annual inspection	✓
	Vegetation management	✓
	Sediment management	✓
Renewal and Rehabilitation	-	-
Replacement	Replace assets	✓

Table 2E - Lifecycle Activities - Low Impact Development

Oil Grit Separators (OGS) Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Services that protect property from the impacts of flooding
Acquire and Commission	Construct new OGS	✓
Operations, Maintenance, and Inspections	Visual inspections	✓
	Sediment removal and disposal	✓
Renewal and Rehabilitation	-	-
Replacement	Replace oil grit separators	✓

Table 2F - Lifecycle Activities - Oil Grit Separators

Lifecycle Activities Continued

Ditches and Culverts Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Services that protect property from the impacts of flooding
Acquire and Commission	Construct new ditches and culverts	✓
Operations, Maintenance, and Inspections	Visual inspections	✓
	Remove vegetation	✓
	Clear spillway	✓
	Reactive maintenance and washouts	✓
	Reactive culvert repairs	✓
	Manage invasive species	✓
Renewal and Rehabilitation	Mechanical ditch regrading	✓
Replacement	Culvert replacements	✓

Table 2G - Lifecycle Activities - Ditches and Culverts

Maintenance Holes Asset Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Services that protect property from the impacts of flooding
Acquire and Commission	Construct new maintenance holes	✓
Operations, Maintenance, and Inspections	Ad-hoc operational inspections	✓
	Formal inspection program	✓
	Rebuild adjustment units	✓
	Repair benching and parging around pipes as required	✓
Renewal and Rehabilitation	Replacement of manhole cover/lid	✓
Replacement	End of life replacement	✓

Table 2H - Lifecycle Activities - Maintenance Holes

Risk

Risk can be assessed at multiple levels. This plan will evaluate risk from two key perspectives: service-level risk, which pertains to potential impacts that may disrupt the delivery of services to the public and community, and asset-level risk, which focuses on the exposure of the assets themselves.

The chart below illustrates asset risk. The risk assessment was conducted on a risk assessment matrix based on likelihood of failure and the consequence of failure.

STORMWATER RISK PROFILE

Likelihood of Failure

- Age
- CCTV condition ratings where available.

Consequences of Failure

- Pipe Material
- Pipe Diameter
- Pipe Structure Type
- Pipe Placement
- Road Class
- Stakeholder Impact
- Land Use

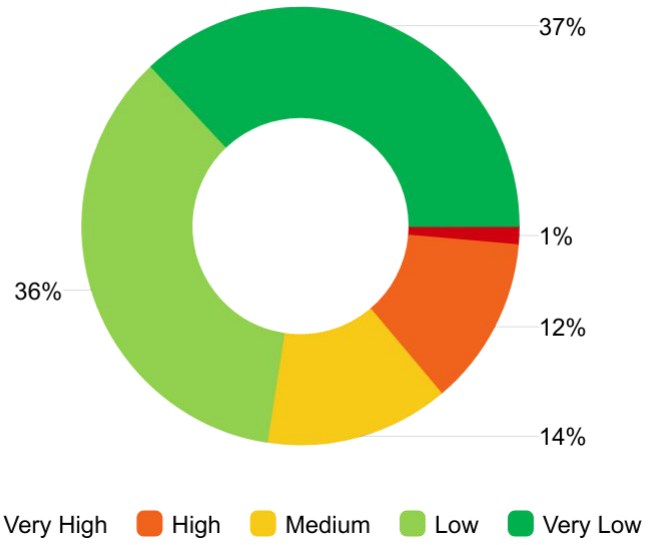


Figure 5 - Asset Risk Profile

05 Future Ready

What was once a small but thriving Town, today Newmarket is a desirable and affordable community. While the future is bright, trends like increasing service expectations, urbanization, and climate change are challenging the status quo. The future will change how the Town manages assets.

Key takeaways:

- What increases in asset-related services are expected?
- How will climate change impact assets?

Future Ready

Ongoing and future trends will impact the way the Town delivers its services and manages its assets. Proactively identifying these trends and pressures allows the Town to account for risk and take advantage of opportunities. Using planning to maintain a future outlook allows for a balance between maintaining present services while managing growth.

The Future Ready section will discuss the following:

Growth

An outlook of forecasted growth in the asset portfolio.

Climate Change

Vulnerabilities and adaption and mitigation approaches to climate change, specifically flooding. Results of a flood risk assessment are provided as flooding is the first of several types of climate considerations to be applied in the future.

Growth Planning in Newmarket & Population

The Town of Newmarket is expected to grow from its current population of approximately 90,700 residents to a future population of 118,500 by 2051 according to provincial and regional plans. At the same time, the employment base is projected to grow from 45,000 to 58,100 jobs.

		2021	2031	2041	2051
Newmarket	Population	90,700	98,900	107,200	118,500
	Employment	47,500	50,600	53,900	58,100

Table 3 - Newmarket Growth in Population and Employment

To support this population, more assets and new types of assets may be required to provide asset-related services and to maintain service levels. The asset management plans reflect planning efforts to coordinate assets and population growth. The asset management plans reflect planning efforts to coordinate assets and population growth in alignment with the 2019-2028 Development Charges Background Study.

Identified Growth

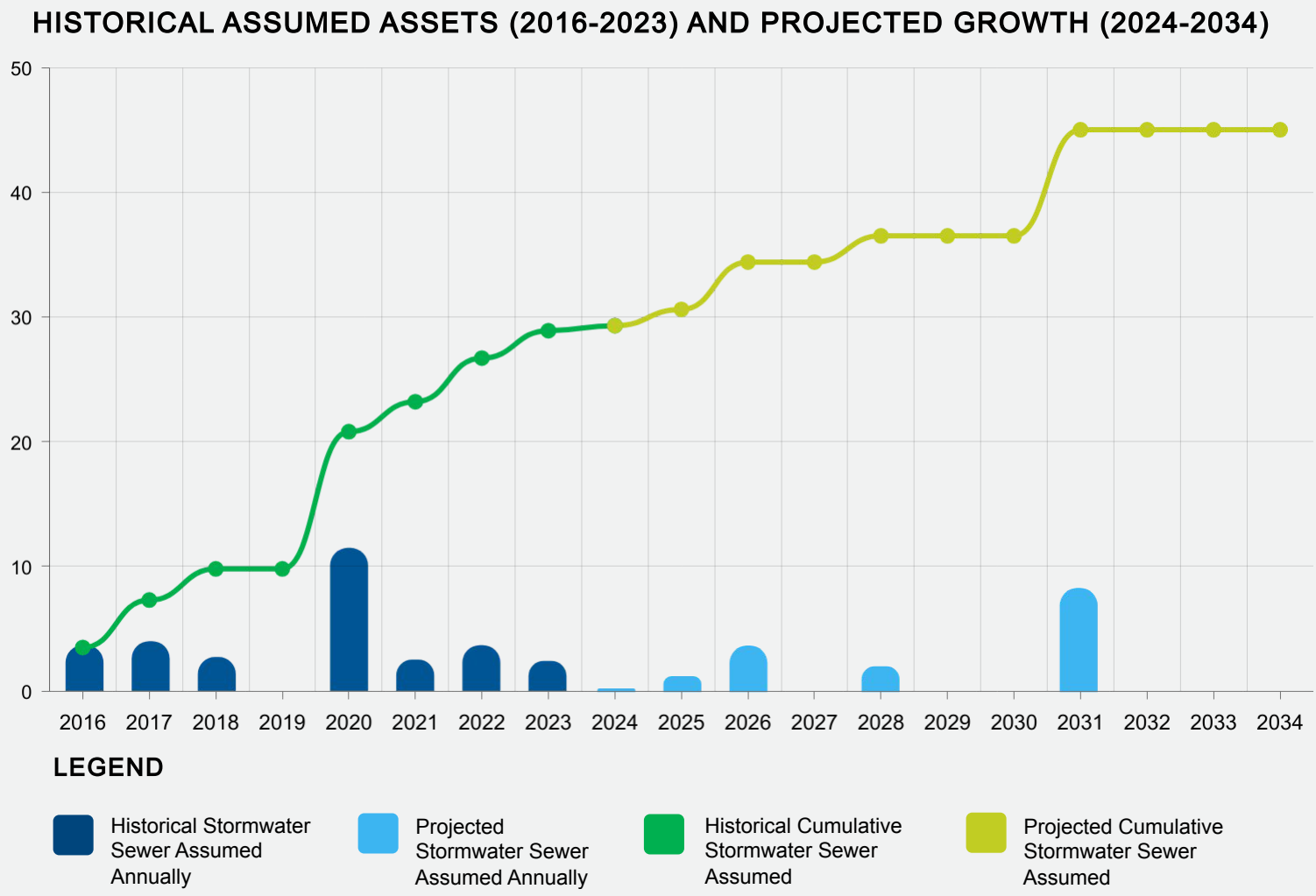


Figure 6 - Historical Assumption and Projected Growth

The following table summarizes asset increases in the asset portfolio. Information on growth values and impacts will be discussed in the Financial Context section.

Years	Stormwater Sewer (km)	OGS	LID	Ponds	Service Connections	Storage Tanks
2024	0.3	0	0	0	40	0
2025	1.3	0	1	4	121	0
2026	3.8	4	2	1	475	3
2027	0	2	0	0	0	0
2028	2.1	0	1	1	410	0
2029	0	3	0	0	0	0
2030	0	11	2	0	0	2
2031	8.5	3	1	0	0	3
2032 - 2034	0	0	0	0	0	0

Table 4 - Asset Growth Forecast

Climate Change Assessment

To prepare for climate change impacts, the Town engaged with the Ontario Climate Consortium (OCC) to conduct a corporate-wide flood risk resilience assessment of Town-owned infrastructure. The study used an indicator-based tool to evaluate flood risk based on:

1. **Hazard** – Geospatial factors influencing riverine, overland, and groundwater flooding.
2. **Vulnerability** – Operational, social, economic, and environmental factors affecting an asset's susceptibility to flooding.

STORMWATER PONDS FLOOD RISK ASSESSMENT

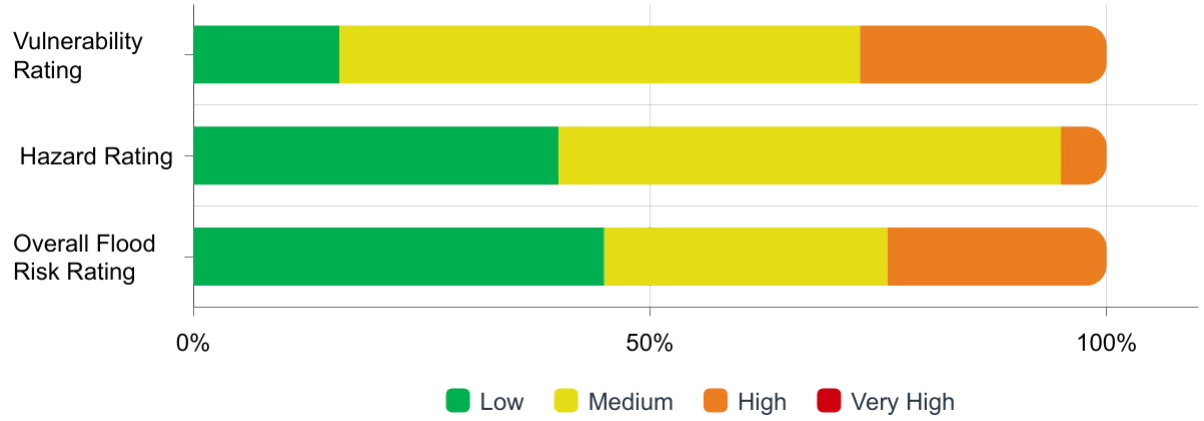
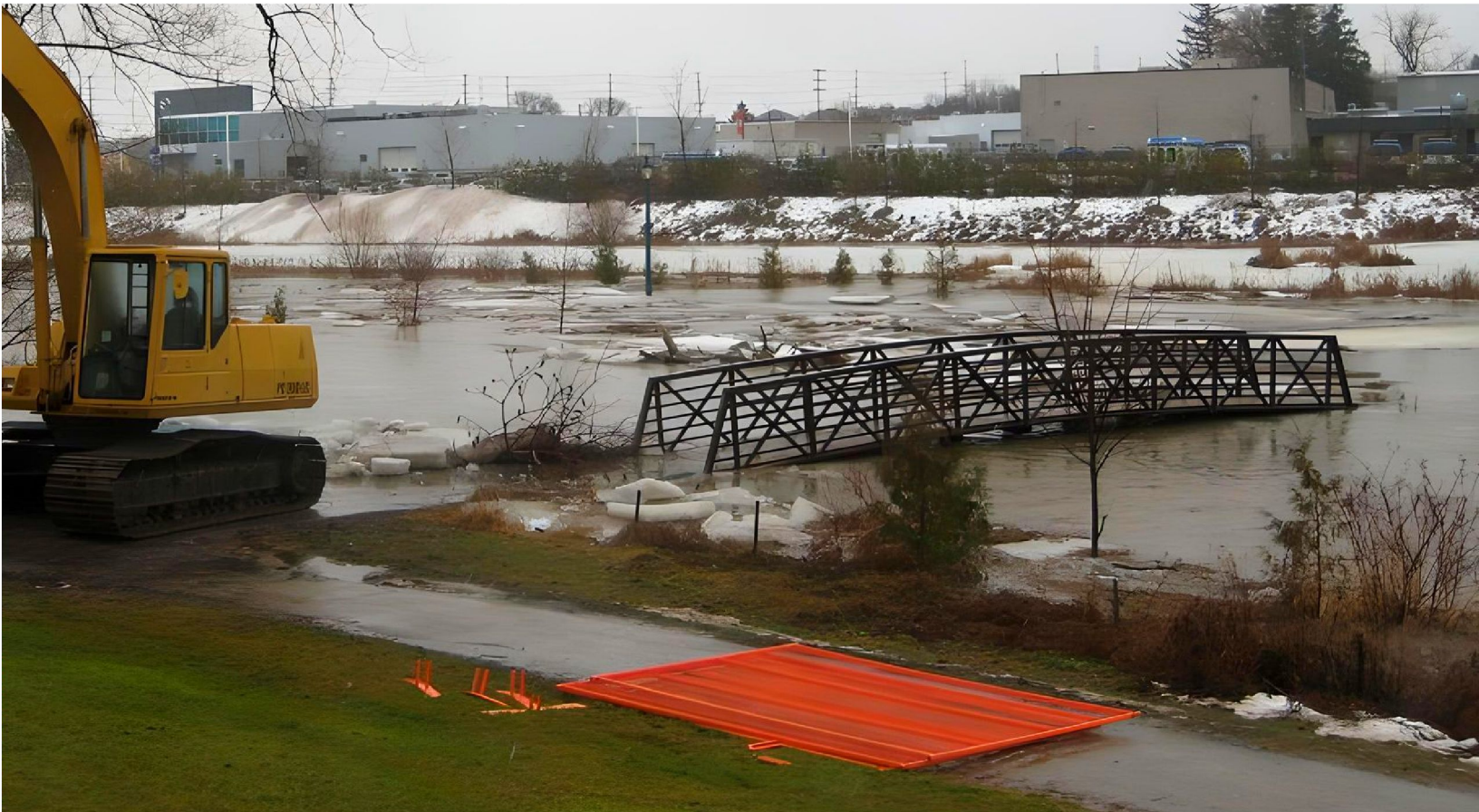


Figure 7 - Flood Risk Assessment Results



06 Financial Context

The Financial Context section brings together the data and analysis from previous sections to provide a clear view of the Town's financial situation regarding its assets. It reviews historical and current practices and future outlook based on anticipated growth. Three scenarios are introduced here to explore different levels of service based on asset condition and funding levels.

Key takeaways:

- What are the Town's current financial practices for asset management?
- What operating budget supports our assets?
- What is the long-term financial impact of growth, based on the total lifecycle of the assets?

Financial Strategy

The sustainability of Town infrastructure depends on effective management and ensuring the optimal use of available funds. The Town of Newmarket has developed a Financial Strategy to evaluate the relationship between current investment levels, service outcomes and risk of service failures. The financing strategy strengthens the budget process by reinforcing a long-term perspective of service levels. The Town modelled and prepared an analysis of three scenarios over a 10-year time horizon to determine the Proposed Levels of Service.

Capital Financial Strategy

The history of the Town's financial contributions and capital spending practices were used to inform the financial analysis conducted. This historical context provides valuable insights into the Town's fiscal health, helping to inform future financial planning and decision-making processes.

Year	Stormwater Reserve Contribution	Reserve Contribution as a Percentage of 2023 Replacement Value
2018	$340,512	0.04%
2019	$435,096	0.05%
2020	$436,923	0.05%
2021	$993,435	0.12%
2022	$993,435	0.12%
2023	$800,000	0.09%

Table 5 - Historical Reserve Contributions

Year	Stormwater Capital Spending on Existing Assets	Capital Spending as a Percentage of 2023 Replacement Value
2018	$67,739	0.01%
2019	$583,897	0.07%
2020	$212,031	0.02%
2021	$332,882	0.04%
2022	$2,340,671	0.27%
2023	$1,672,925	0.20%

Table 6 - Historical Capital Spending

Estimated Future Reserve Contributions

The Town's reserve contributions are geared towards long-term financial planning and to balance funding with future renewal costs. These projections will be reviewed each year through internal processes and Council-approved budgets. The Town's increased reserve contributions are part of the rate-supported financial plans for water, wastewater, and stormwater services. The forecasted reserve contributions are based on the customer demand, rates, and expected population growth, along with the economic activity outlined in the Future Ready section. Funding increases for service areas would be proportional, with additional factors from the Reserve & Reserve Fund Review taken into account.

Year	Estimated Future Reserve Contributions
2025	$7,960,855
2026	$8,607,354
2027	$8,953,041
2028	$8,241,635
2029	$13,124,141
2030	$12,346,351
2031	$11,746,351
2032	$12,146,351
2033	$12,546,351
2034	$13,046,351

Table 7 - Estimated Future Reserve Contributions

Stormwater Scenario Methodology

To forecast capital investment need, consolidation of inventory, replacement cost, condition, levels of service, risk, and lifecycle activities as shown throughout the AMP was completed.

Three scenarios were created to answer key questions about current budget, future requirements, sustainability and proposed levels of service. Analysis is carried out in Decision Optimization Tool, the Town's risk-based investment planning software. The scope of the analysis is the capital cost of replacing existing assets. During the annual budget process, these estimates are reviewed and refined with additional cost drivers for staff delivery capacity, operational impacts, and detailed designs.

Scenario	Description of Scenario Constraints and Objectives
1 – Current Budget	The purpose of the current budget scenario is to calculate the level of service achievable with current funding. Scenario parameters are: • Maximize network performance for limited funds. • Based on current funding as of 2025.
2 – Needs Based	The purpose of the needs-based scenario is to calculate the true cost of maintaining the full asset inventory at current service levels for comparison with current practice. Scenario parameters are: • Limit the number of very poor assets to 5%. • Minimize the cost of maintaining asset portfolio but no budget constraint. • Maintain current levels of services.
3 – Proposed Levels of Service	Proposed Levels of Service documents the Town's financial strategy to increase the capital funding of asset replacements in recognition of the prevailing trends of aging assets. This is achieved through alignment with the Town's Fiscal Strategy and the Reserve Fund Review, which identifies a path to achieving sustainable asset funding levels through a long-term strategy. This strategy will be further reviewed in the Proposed Level of Service section. Scenario parameters are: • Maximize network performance for limited funds. • Employ risk-based prioritizations within the investment planning software to minimize risk. • Increase asset replacement funding from 2025 levels using the strategies identified in the Reserve Fund Review. The resulting financial strategy is approximate to the total asset needs over the next 10 years. This alignment is part of a broader strategy to build reserves in stormwater over 50 years. Further modeling beyond the 10 years will show a lifecycle funding gap for stormwater. Proposed Levels of Service are the basis for the 2025 Asset Management Plans.

Table 8 - Scenario Methodology

Stormwater Scenario Results

The figures on the following pages illustrate how the cost of renewals for different service targets and the condition of Stormwater are forecasted to change over time under all three scenarios.

SCENARIO 1 | CURRENT BUDGET

- Calculate the level of service achievable with current funding.
- Maximize network performance for limited funds.
- Based on current funding as of 2025.

CONDITION FORECAST

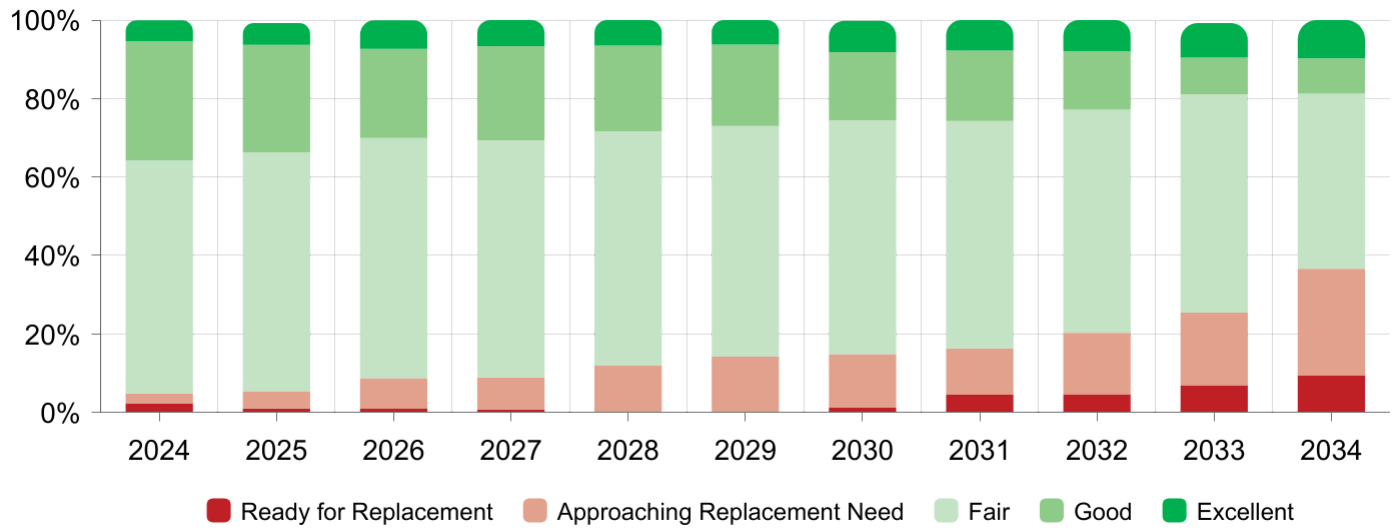


Figure 8 - Forecasted Condition over 10 Years - Current Budget

CAPITAL EXPENDITURE

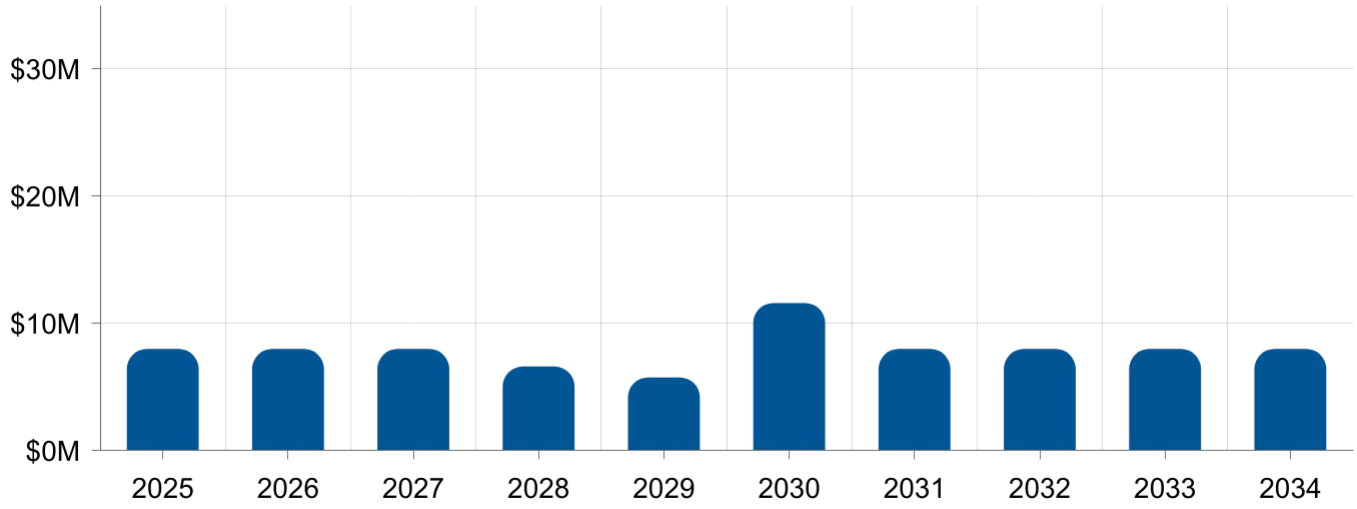


Figure 9 - Forecasted Capital Expenditure over 10 Years - Current Budget

SCENARIO 2 | NEEDS BASED

- Calculate the true cost of maintaining the full asset inventory
- Limit the number of Ready for Replacement assets to 5%
- Minimize the cost of maintaining asset portfolio, but no budget constraint

CONDITION FORECAST

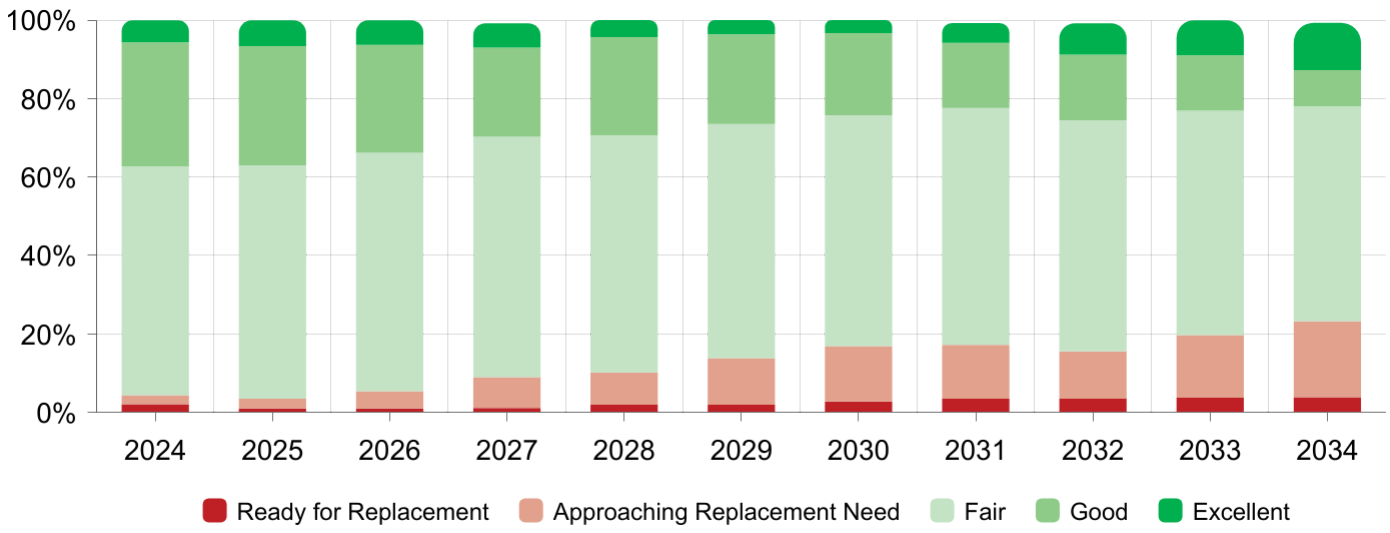


Figure 10 - Forecasted Condition over 10 Years - Needs Based Budget

CAPITAL EXPENDITURE

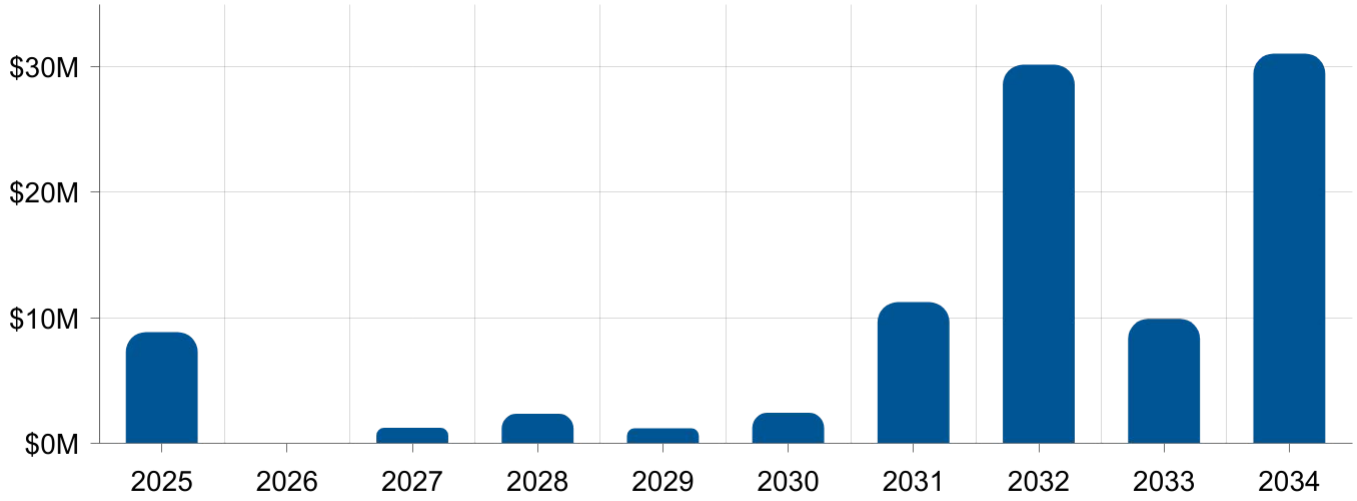


Figure 11 - Forecasted Capital Expenditure over 10 Years - Needs Based Budget

SCENARIO 3 | PROPOSED LOS

- Maximize network performance for limited funds.
- Employ risk-based prioritizations to minimize risk.
- Increase asset replacement funding as identified in the Reserve Fund Review.

CONDITION FORECAST

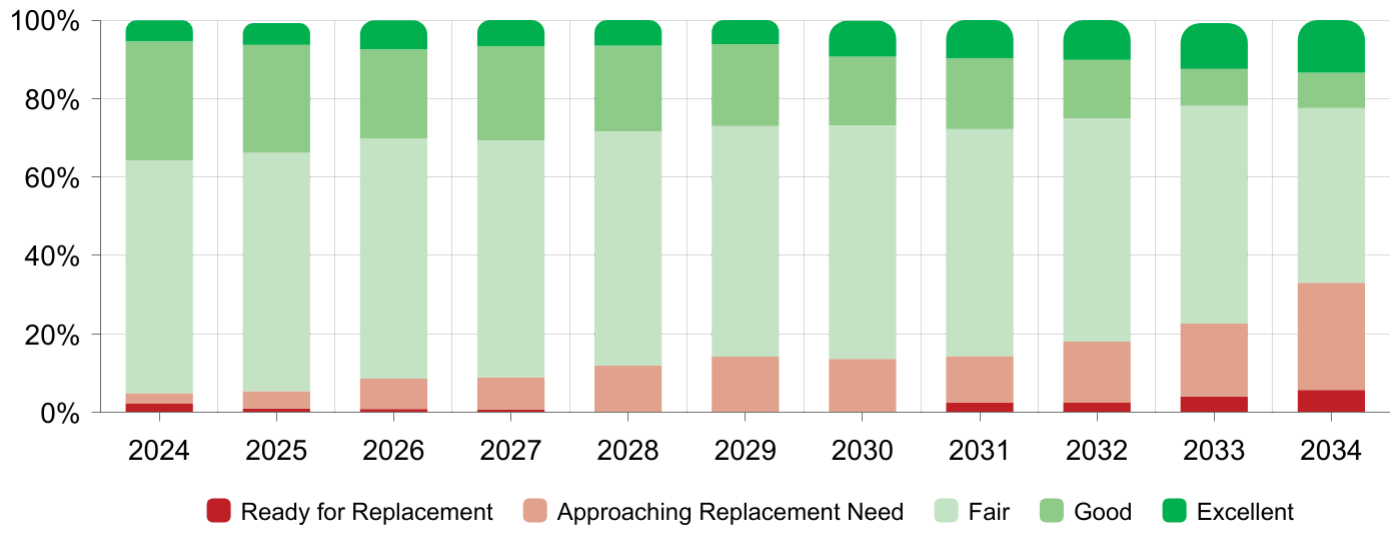


Figure 12 - Forecasted Condition over 10 Years - Proposed LOS Budget

CAPITAL EXPENDITURE

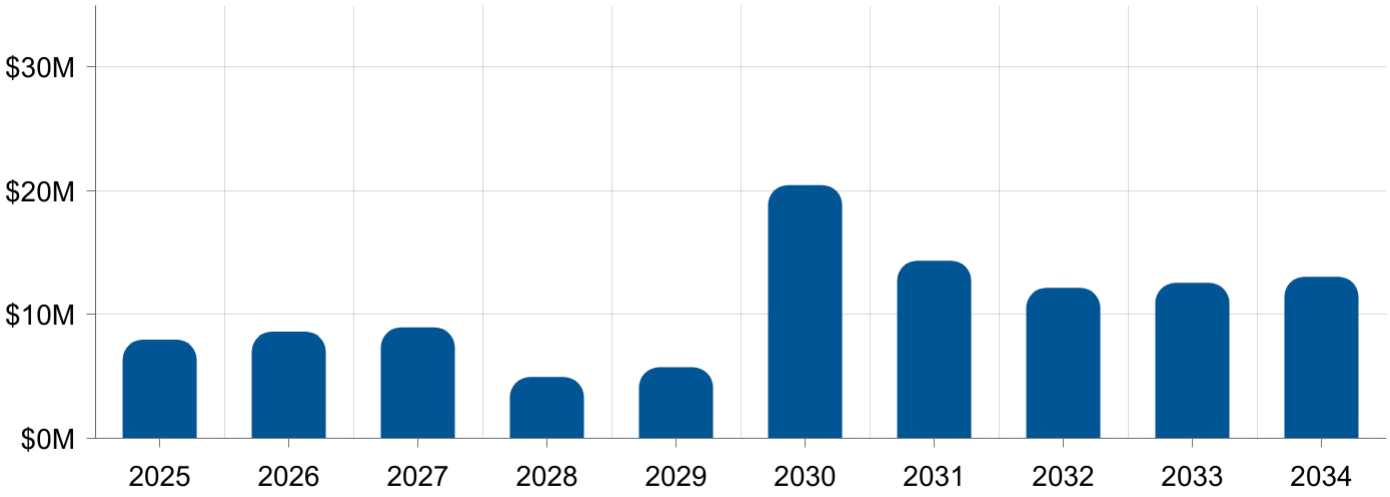


Figure 13 - Forecasted Capital Expenditure over 10 Years - Proposed LOS Budget

Operations & Maintenance

Using the Town's framework for lifecycle activities, the Town's operations and maintenance budget reflects the cost of delivering asset-related services for the activities occurring after acquisition and outside of rehabilitation, replacement, and decommissioning. These are listed in Manage Service Delivery.

The Town is not proposing levels of service changes to its operational lifecycle delivery, as identified in the performance results shown in Levels of Service section and discussed further in Proposed Levels of Service.

$1.33M

Annual O&M cost for Stormwater assets

Financial Impacts of Growth

When a new asset is commissioned, it begins a lifecycle of service and costs. The total value of growth in assets by replacement value identified in Future Ready is as follows. This asset management value may vary from other estimates which consider local factors, developer agreements, or staff resources needed to support growth.

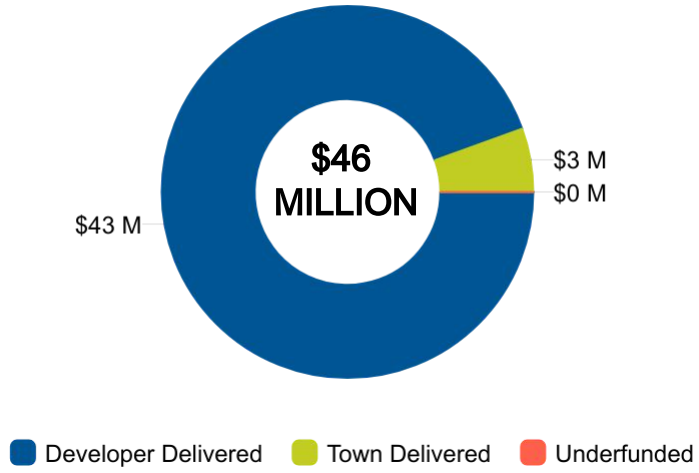


Figure 14 - Total Value of Growth by Funding Source

While providing services, new assets also requires operations, maintenance, and eventual replacement. Acquiring an asset means anticipating future costs, which is essential for financial planning and understanding the total cost of ownership. To reflect this, the Financial Impact of Growth depicts two types of cost: annual O&M cost and reserve fund contribution.

Annual Operating Impact

The annual operating impact reflects the cost of maintaining assets at current service levels, including inspections, cleaning, and energy use. These costs are estimated by scaling current service levels to match growth and are measured in operating dollars per year. Using the asset quantities forecasted in Future Ready, the increases in operations and maintenance costs to maintain current service levels over the next 10 years is expected to be as shown below. This forecast will be reviewed and refined through the annual budget process as projects are scoped and operational needs are confirmed.

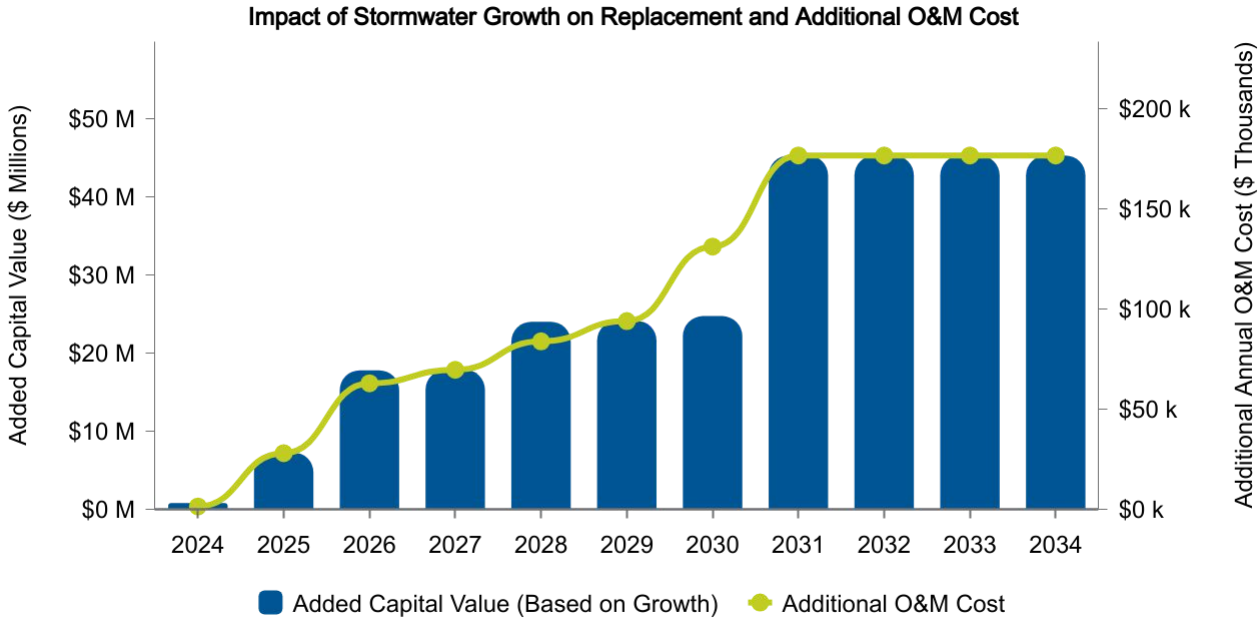


Figure 15 - Impact of Growth on Replacement Cost and Additional Annual O&M Cost

Financial Impacts of Growth - Continued

Reserve Fund Contribution for Sustainable Replacements

Annual reserve contributions ensure funds are available to replace assets at the end of their useful life by spreading costs evenly over time. This prevents a backlog of future replacements and supports asset sustainability. The contribution is calculated by dividing total replacement costs by average asset lifespan. It excludes other capital costs like upgrades, or staff resources to supported added capital delivery. It assumes based on the Town's Reserve Fund Review that the Town can achieve this ratio of funding for all of its assets over time. The graph below shows the increased annual contributions required to sustain future capital replacements.

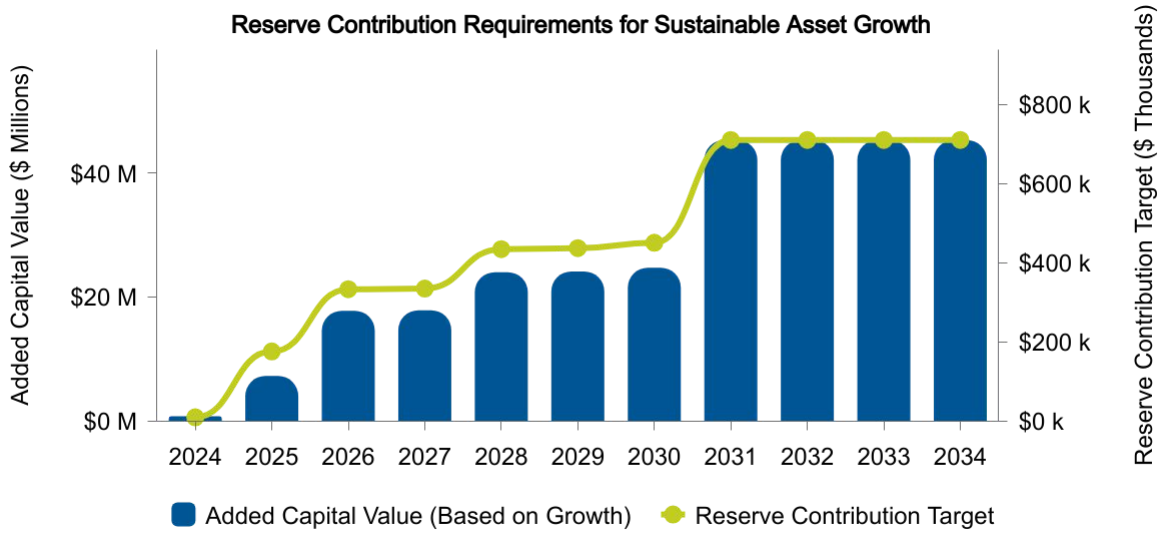


Figure 16 - Reserve Contribution Requirements for Sustainable Asset Growth

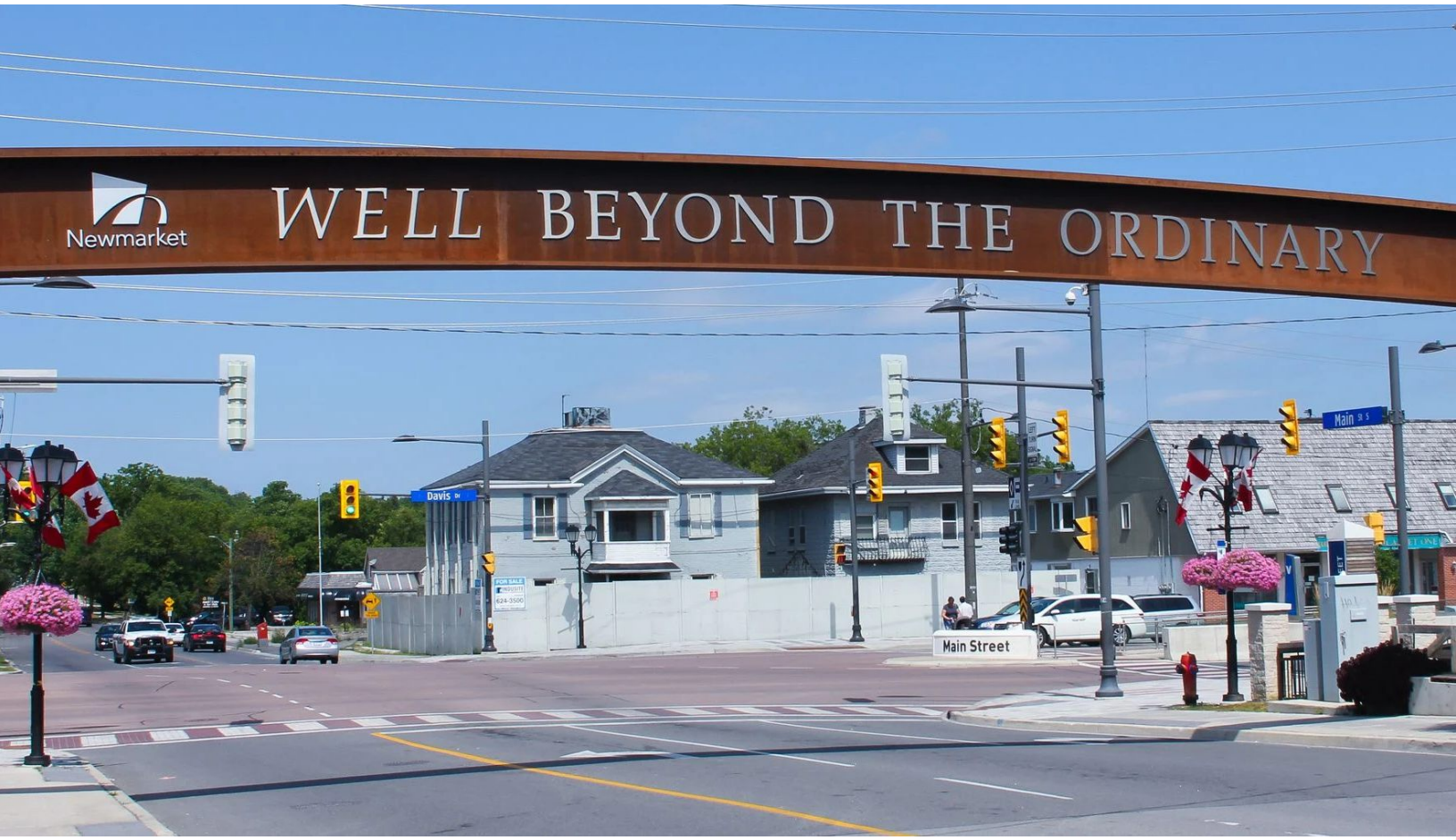
Total Cost of Growth

Accounting for both operational and maintenance costs and reserve contribution requirements, the total estimated annual cost of growth is summarized in the table below. The funding of the growth impacts is discussed further in Proposed Levels of Service.

Financial Impact by Year	Growth in Assets (Replacement Value)	Annual Total O&M Costs	Annual Reserve Contribution Target	Total Annual Financial Impact of Growth (Cumulative)
2024	$781,889	$1,333	$9,832	$11,166
2025	$6,490,707	$26,672	$166,322	$204,159
2026	$10,513,855	$34,848	$157,072	$396,079
2027	$81,128	$6,756	$1,623	$404,457
2028	$6,147,023	$14,199	$99,756	$518,412
2029	$121,692	$10,134	$2,434	$530,980
2030	$589,777	$37,159	$13,555	$581,694
2031	$20,581,713	$45,537	$259,602	$886,834
2032	$0	$0	$0	$886,834
2033	$0	$0	$0	$886,834
2034	$0	$0	$0	$886,834

Table 9 - Total Cost of Growth Summary over 10 Years

07 Proposed Levels of Service



Proposed Levels of Service forecasts the projected service levels the Town will deliver through its assets using a financial strategy in alignment with O.Reg. 588/17. The Proposed Levels of Service forms the basis for 10-year forecasting, annual budget recommendations, risk management, and performance monitoring. It incorporates information from all previous sections of the asset management plans.

Key takeaways:

- What is the proposed level of service based on a holistic view of the combined factors (cost, level of service, risk)?
- How is the proposed level of service achieved?
- What is the proposed level of service performance forecast?
- What is the financial summary of the proposed level of service?

Proposed Levels of Service

Concluding the Asset Management Plans in accordance with O.Reg. 588/17, Proposed Levels of Service can be summarized based on financial analysis and the information contained throughout the plans.

Levels of Service Achieved Through Capital Renewals and Replacements

The Proposed Levels of Service Scenario including its funding and asset conditions are the Town's selected plan for funding renewals and replacement. It considers risk associated with aging assets against the Town's goals of sustainably providing quality asset-related services at a level that is affordable and appropriate for the community.

Level of Service Option	Rationale	Funding Achieved Over 10 Years	Funding Gap
Scenario 1 Current Budget	Current Budget reflects that the Town currently provides strong levels of funding for maintaining its assets, but what was sufficient for historical levels of renewal will not be appropriate going forward as assets continue to age. The decrease in service levels over 10 years are not a rate that is sustainable or appropriate for the community and would reflect an increase in risk.	$79.61 M	($18.77 M)
Scenario 2 Needs Based Budget	Needs Based expands on Scenario 1 by showing the financial needs associated with maintaining an aging asset portfolio. This shows that the true cost of maintaining the Town's assets is more costly than what the Town currently provides. When combined with a risk-based approach, this was used to inform Scenario #3 Proposed Levels of Service.	$98.38 M	N/A
Scenario 3 Proposed Levels of Service	The Proposed Levels of Service are aligned to the funding in a 20 year financial plan for stormwater. This plan prepares the town for future funding shortfalls by starting to build reserves during the asset management plan. The Town is projecting a funding shortfall outside the 10 year asset management plans The financial strategies include rate-supported financial plans, increased tax-supported contributions to asset management funds, reserve management and investments, assessment growth, use of provincial and federal grants, interfund-borrowing, annual budgeting, and where allowable a role for external debt funding of capital projects.	$108.72 M	$0 M

Table 10 - Levels of Service Options Funding Gap

Levels of Service Achieved Through Operations and Maintenance

The Town is not proposing any material changes or enhancements to the lifecycle activities and operational service levels. This is because:

- In accordance with the Municipal Act and Town municipal funding practices, the operating budget is considered a sustainable source of funding operations and maintenance through rate and tax-supported annual budgets.
- The current service levels are affordable and appropriate as they are already experienced by the community.
- Maintaining current service levels allows the Town to acquire asset expansions associated with population growth using assessment growth, without further financial impacts. This is part of the Town's Fiscal Strategy.
- The assessed risk of the condition of the assets based on the funding of renewals is within the Town's operational capacity to mitigate potential risks.

Cost of Current Levels of Service	Proposed Levels of Service	Shortfall
$1,329,500.00	No Change	$0

Table 11 - Proposed Levels of Service O&M Funding Shortfall

Levels of Service Maintained With Growth

The expected growth in population demonstrates the need to expand and intensify assets used to maintain service levels. The forecasts of asset growth show increases to the asset portfolio in line with population increases. The Town funds the acquisition, operations and future replacement of growth assets to maintain strong services to the community. These cost estimates do not include the human resources of delivering growth assets.

Value of Assets to Support Proposed Levels of Service through Growth	Value of Developer Delivered Assets	Value of Town Delivered Assets	Shortfall
$45,307,783	$42,801,273	$2,506,510	$0

Table 12 - Growth Capital Funding Shortfall

Once assets are operational, it was shown there is a new operating cost to maintain them. To achieve the Proposed Level of Service for new assets as well as existing assets, the Town incorporates growth principles into its budget process by reserving the use of assessment growth to fund the operations of new assets. This ensures that growth in population, growth in assets, assessment growth, and service levels achieve parity as intended by the Development Charges Act.

Total Operating Impact of Growth for Proposed Levels of Service	Forecasted Operating Budget Allocated Through Assessment Growth	Shortfall
$176,638	$176,638	$0

Table 13 - Growth O&M Funding Shortfall

Service Risk

After considering the trade-offs between service levels and affordability, risk was considered to confirm service levels are appropriate. Risks were identified and mitigated to levels that are appropriate for the community and the Town's operations and maintenance program. Risks associated with the Proposed Levels of Service are:

Service Risk	Mitigation Measures	Residual Risk
Blockages & overflows in sewers, oil grit separators, and ponds.	CCTV inspections, cleaning schedules, pre and post-storm performance checks.	Some minor risk of blockages occuring between inspections.
Aging infrastructure increasing maintenance costs.	Proactive maintenance programs to keep assets in good to fair condition for as long as possible.	Monitor for increasing maintenance costs and any backlog in capital repairs.
Road & active transportation obstructions when traversing catchbasins and maintance holes.	Road patrols and minimum maintenance standards. Summer sidewalk patrols. Catchbasin cleaning. Spring clean-up.	Minimal residual risk of obstructions or tripping hazards.
Resilience and capacity of infrastructure to withstand the impacts of climate change.	Flood monitoring and pre and post-storm performance checks. Engineering design standards and updates. Use of IDF curves and coordination with conservation authorities. Adopted of LID and other technologies. Conducting of comprehensive drainage plans. Facility retrofits.	Varies with climate scenario, to be verified with ongoing monitoring, research and development, reporting.

Table 14 - Service Risk and Mitigation Measures

Proposed Levels of Service Performance

Proposed Levels of Service have been considered across the asset lifecycle, financially costed, and analyzed for risk. To quantify service levels, the performance measures identified by Managed Service Delivery can be projected out to 2034. These service levels will be monitored and reviewed annually. The Town's proposed levels of service measures are:

Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Percentage of existing assets not due for replacement	99%	99%	99%	100%	100%	100%	97%	98%	96%	94%
Percentage of properties in municipality resilient to a 100-year storm.										N/C
Percentage of the municipal stormwater management system resilient to a 5-year storm.										N/C

Table 15 - Proposed Levels of Service Performance

N/C - No change

Financial Summary

Throughout the Proposed Levels of Service process, the Town defined several financial strategies to achieve its proposed levels of service. These included:

- Increasing asset renewal funding through a wide range of reserve management methods focused on larger contributions, balancing risk and affordability.
- Planning asset growth in-line with population growth, and including development charges and assessment growth as part of asset financial planning.
- Maintaining operations and maintenance funding at current levels to support consistent annual lifecycle activities.
- Integrating asset management planning with the annual budget process so initial estimates and recommendations can be refined to incorporate detailed designs, capital delivery capacity, and operations and maintenance impacts of changes in assets.

When each analysis is combined, the total cost of the asset lifecycle over the next 10 years can be summarized as follows:

Financial Impact by Year	Existing Assets			Growth Assets		
	Base Operating Costs	Proposed Replacement Capital Spending	Cumulative Capital Shortfall	One-Time Capital for Growth	Annual Operating Impacts of Growth	Annual Reserve Contributions for Growth
2025	$1,329,500	$7,960,541	($896,147)	$6,490,707	$28,005	$176,154
2026	$1,329,500	$8,607,539	$0	$10,513,855	$62,853	$333,226
2027	$1,329,500	$8,952,975	$0	$81,128	$69,609	$334,849
2028	$1,329,500	$4,943,208	$0	$6,147,023	$83,807	$434,604
2029	$1,329,500	$5,730,667	$0	$121,692	$93,942	$437,038
2030	$1,329,500	$20,447,766	$0	$589,777	$131,100	$450,594
2031	$1,329,500	$14,336,978	$0	$20,581,713	$176,638	$710,196
2032	$1,329,500	$12,146,335	$0	$0	$176,638	$710,196
2033	$1,329,500	$12,546,044	$0	$0	$176,638	$710,196
2034	$1,329,500	$13,046,725	$0	$0	$176,638	$710,196

Table 16 - Total Cost of Asset Lifecycle over 10 Years

Managing Shortfalls

It is understood that an infrastructure funding gap is common among municipalities. Studies have shown Canadian municipalities carry a disproportionate burden for infrastructure investments, relative to the municipal share of all governmental funding seen in Canada. Based on Statistics Canada benchmarking, the Town is in a better than average position for its infrastructure assets. The Town is committed to optimizing the use of limited funds to provide strong services to the community while continuing to seek additional funding. Each stream of service delivery was considered for funding impacts. The Town is projecting funding shortfalls for stormwater, but due to the demographics of the infrastructure they do not occur for more than 10 years:

Service Delivery	Total Shortfall Over 10 Years
Capital	$0
Operating	$0
Growth	$0

Table 17 - Proposed Levels of Service Funding Shortfall Summary

Based on the Town's Proposed Levels of Service, the Town will move forward with the adopted financial strategy and the associated trade-offs. The Town will continue to seek additional funding opportunities identified in the Fiscal Strategy and will monitor performance for future updates.

08 Conclusion

Newmarket's asset management planning process advances the Town's objectives for financial sustainability, and demonstrates a commitment to Town values of being Well Beyond the Ordinary. Asset management is a continuous improvement process. Through iterations of development and implementation, new asset management capabilities can develop and others can improve.

The Asset Management Plans is a significant milestone, and part of a broader implementation of asset management capabilities by the Corporate Asset Management Office and Town business units. The Town will review and update asset management plans every five (5) years. Plans will be approved and endorsed by Town Council.

Asset management is not a document or a software. It is a way of doing business every day, and a lifelong journey to improve the Town. Through this journey, the Town can truly become Well Beyond the Ordinary.

2025

Parks Asset Management Plan

Newmarket

Acknowledgements

Community Services Commission
Parks And Property Services
Recreation & Culture
Engineering Services
Data Analytics And Geospatial Services
Financial Services
Corporate Asset Management
Asset Management Steering Committee
Infrastructure Solutions Inc.

02 Table of Contents

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List of Tables

03 Know Your Assets

The Town is responsible for $3 Billion+ of assets. Assets exist to provide services to the community. Their ability to deliver services depends on Town stewardship and informed decision making. As assets age, they have to be repaired or replaced.

Key takeaways:

- What do we own?
- What condition is it?
- What would it cost to replace?

Know Your Assets

Know Your Assets is the first section of the asset management plan and sets the foundation for analysis by providing an understanding of what assets the Town owns. It details the characteristics, history, age, condition, and replacement cost of the assets. This information helps inform the current state of infrastructure. The contents of this plan are based on 2023 data.

Context for State of Infrastructure

The State of the Infrastructure will combine inventory quantities, replacement costs, and condition ratings to provide a detailed breakdown of the asset portfolio. The inventory has been organized in a hierarchy to reflect the asset types providing the service, and to support reporting and planning. The Town's inventory for the Parks service area is organized in Figure 1.

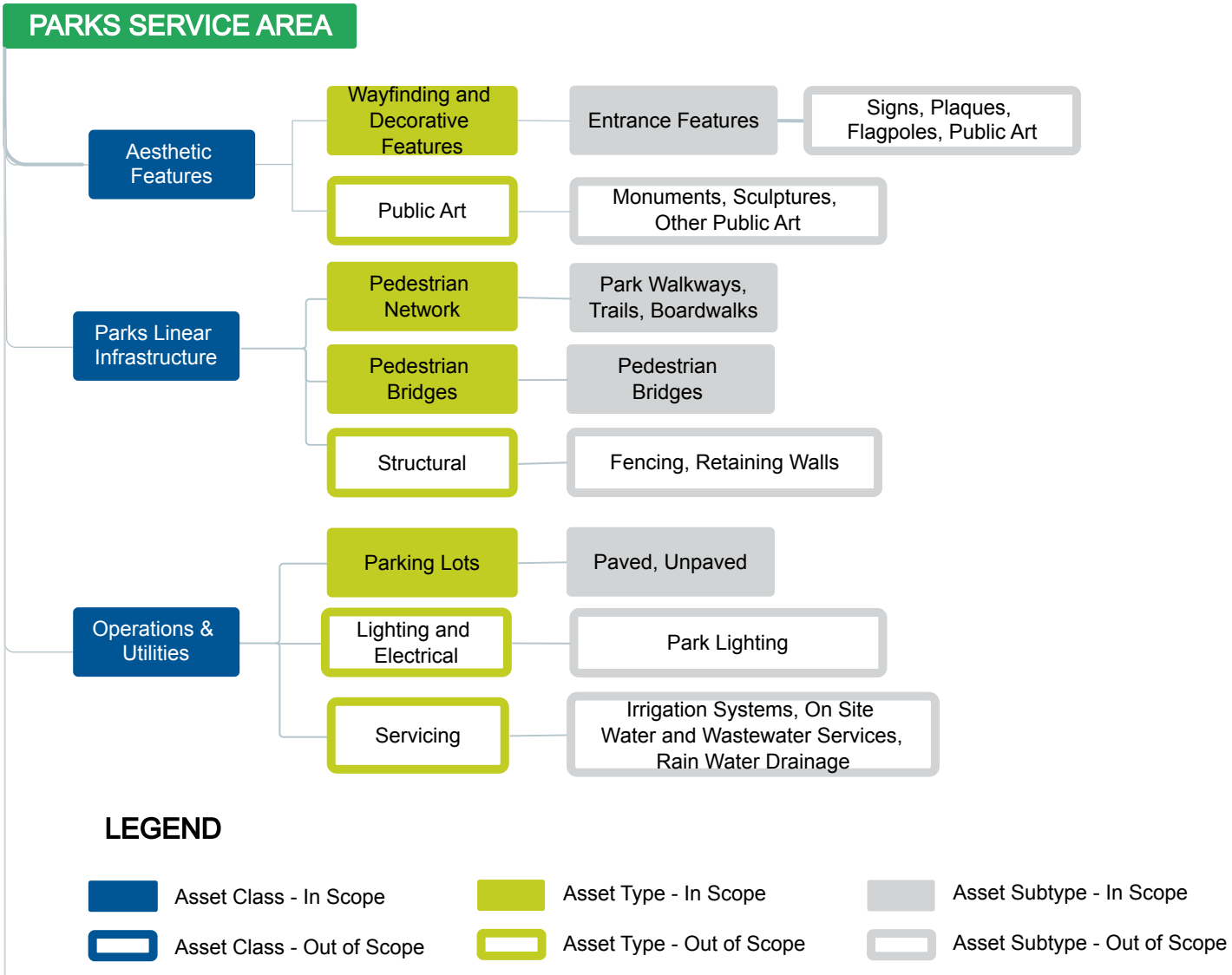


Figure 1 - Parks Assets Classification

Continued on the following page.

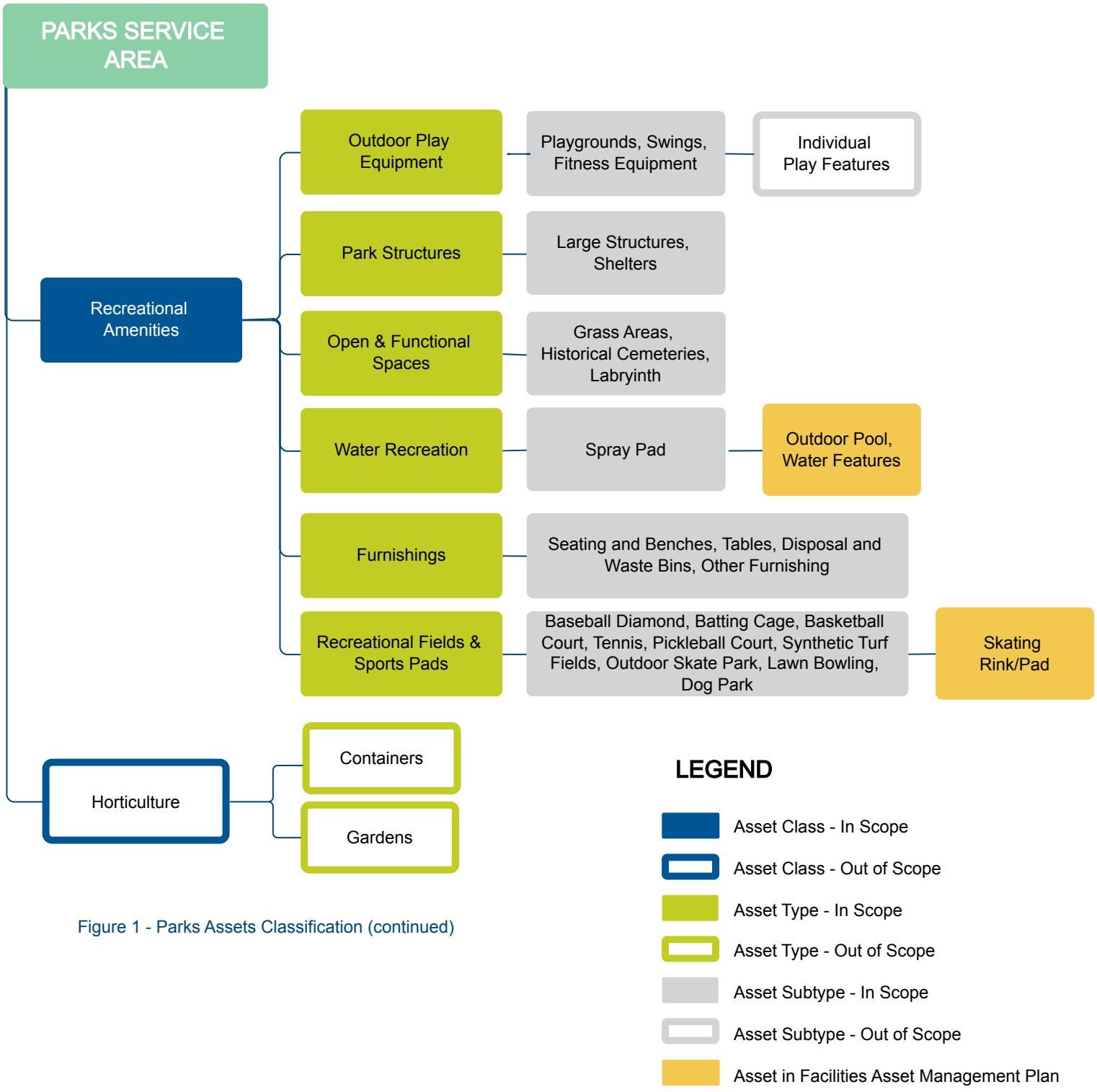


Figure 1 - Parks Assets Classification (continued)

Condition Index

Based on age or visual engineering observations, condition indicates the level of service and likelihood of failure for an asset. Assets are assigned condition ratings on a 5-point scale. Condition ratings for some assets have been assigned a rating based on in-field condition inspection undertaken by Town staff or Bridge Condition Index for pedestrian bridges. Photos are included to illustrate differences in condition and service quality.

Illustration of Levels of Service through Asset Condition

Condition influences service quality and levels of service are based on condition as forecasted in the Financial Strategy. To illustrate this impact, a collection of images has been collected depicting the differences in condition and levels of service.

Very Good 75-100

The asset is future-ready. It is in excellent condition, well-maintained, and recently constructed or rehabilitated. It can reliably meet service needs with minimal intervention.


Good 50-75

The asset is performing well. It meets all service expectations and is supported by proactive maintenance to sustain its condition as it progresses through the early-to-mid stages of its expected service life.


Fair 25-50

The asset is functioning adequately with some active maintenance. It shows some visible signs of aging and wear.


Approaching Replacement Need 1-25

The asset is approaching the eventual end of its service life with noticeable signs of moderate deterioration. Some components beginning to require closer monitoring to maintain reliable performance and targeted maintenance is required to maintain service levels.


Ready for Replacement 0

The asset has reached the end of its optimal service life and is a candidate for replacement. While functional, it is not delivering services at the optimal level. There are potential increased risks of service disruption. Maintenance efforts are focused on managing risks, minimizing disruptions, and preserving functionality to provide service levels until replacement occurs.


Figure 2 - Asset Condition Photo Illustration

Newmarket

Parks

STATE OF INFRASTRUCTURE

Based on data as of December 31, 2023

INFRASTRUCTURE PURPOSE

Parks and open spaces allow for the community to gather, be active, stay healthy, and engaged. They provide connectivity between passive and active areas, natural features, and link to the public trail system.

KEY NOTES

Replacement Value: $101 Million

Parkland Inventory: 59 Parks

Average condition: Fair

Park Asset Inventory: Total Assets: 1,337
Pedestrian Network: 47 km
Open & Functional Spaces: 101 acres

Average age: 22 years
Average Remaining Life: 21 years

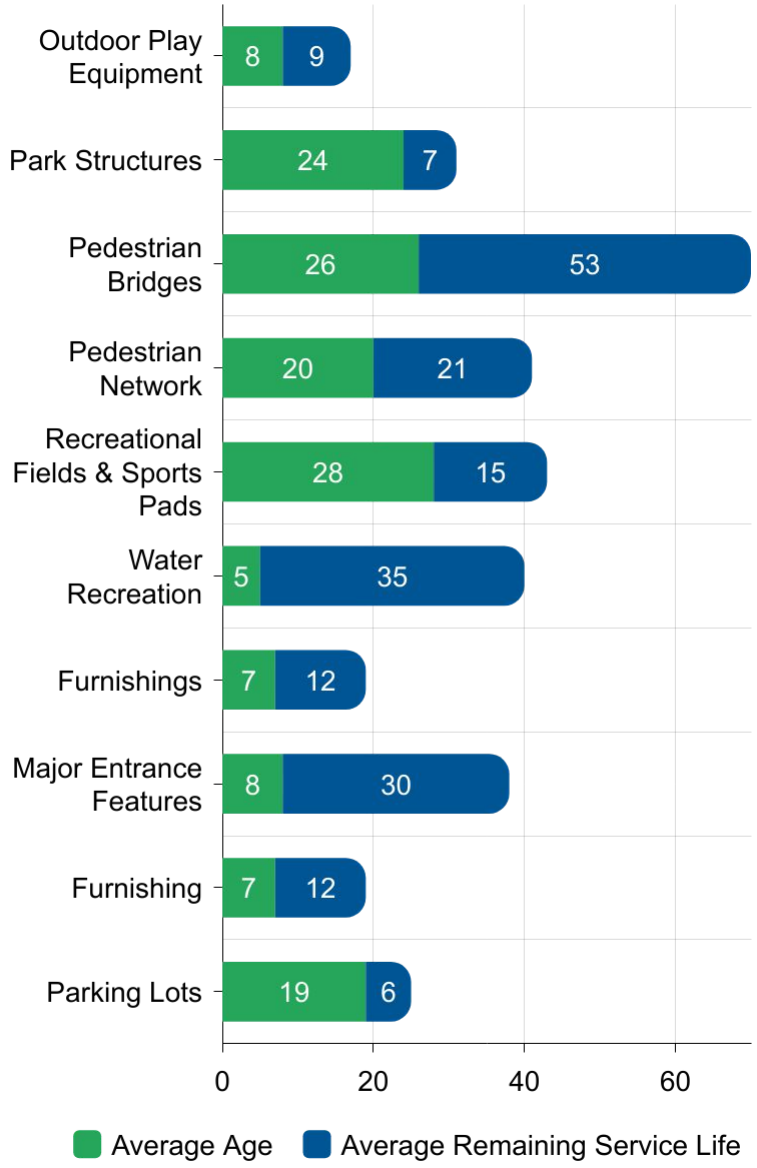
PARK INVENTORY

Park Type	Inventory
Community Park	13
Neighbourhood Park	42
Town Park	4
Total Parks	**59**

PARK ASSET INVENTORY

Asset Class & Asset Type	Inventory
Outdoor Play Equipment	119
Recreational Fields and Sports Pads	83
Water Recreation	3
Major Entrance Features	8
Parking Lots	85
Park Structures	18
Furnishings	985
Pedestrian Bridges	35
Pedestrian Network	47 km
Open & Functional Spaces	101 acres

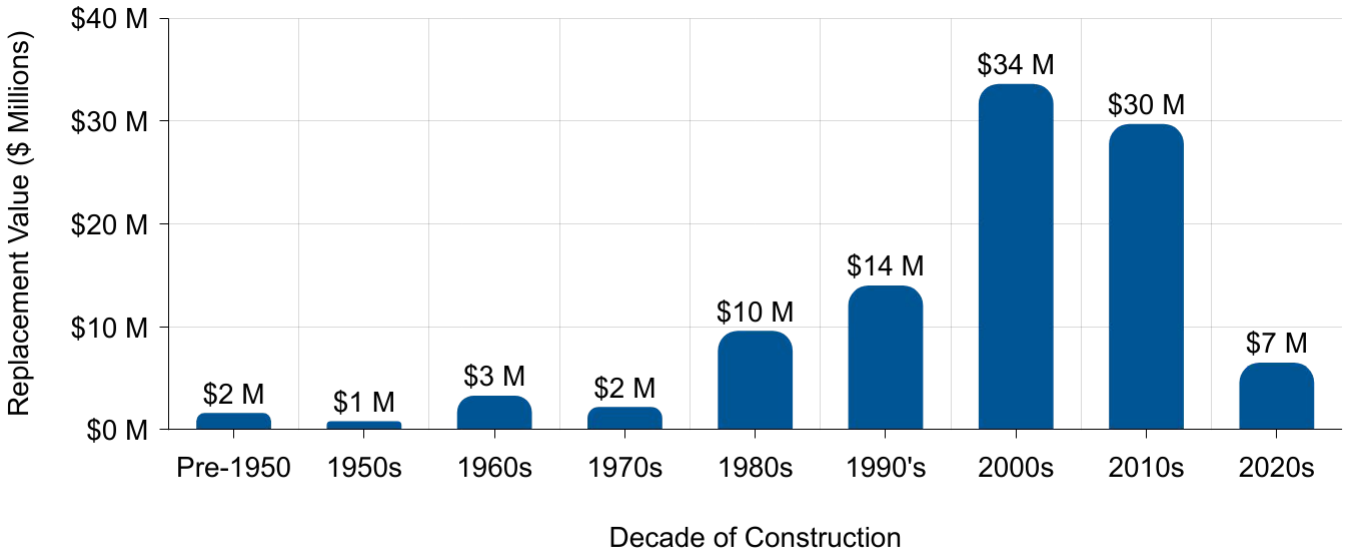
AVERAGE AGE & REMAINING SERVICE LIFE



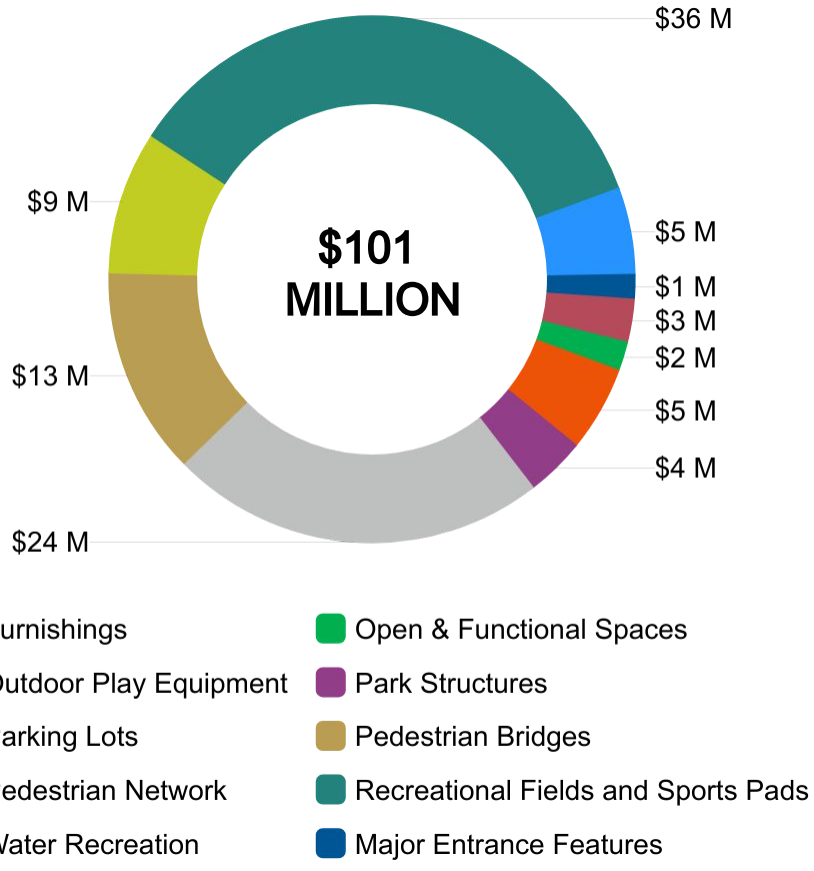
Parks

STATE OF INFRASTRUCTURE

PARK ASSET CONSTRUCTION BY DECADE



TOTAL PARKS REPLACEMENT VALUE BY ASSET TYPE



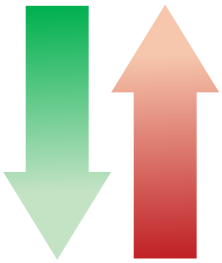
Parks

STATE OF INFRASTRUCTURE

LEGEND

Very Good | Good | Fair | Approaching Replacement Need | Ready for Replacement

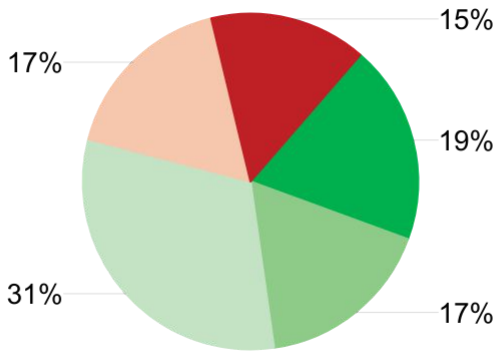
CONDITION CHANGES SINCE 2023



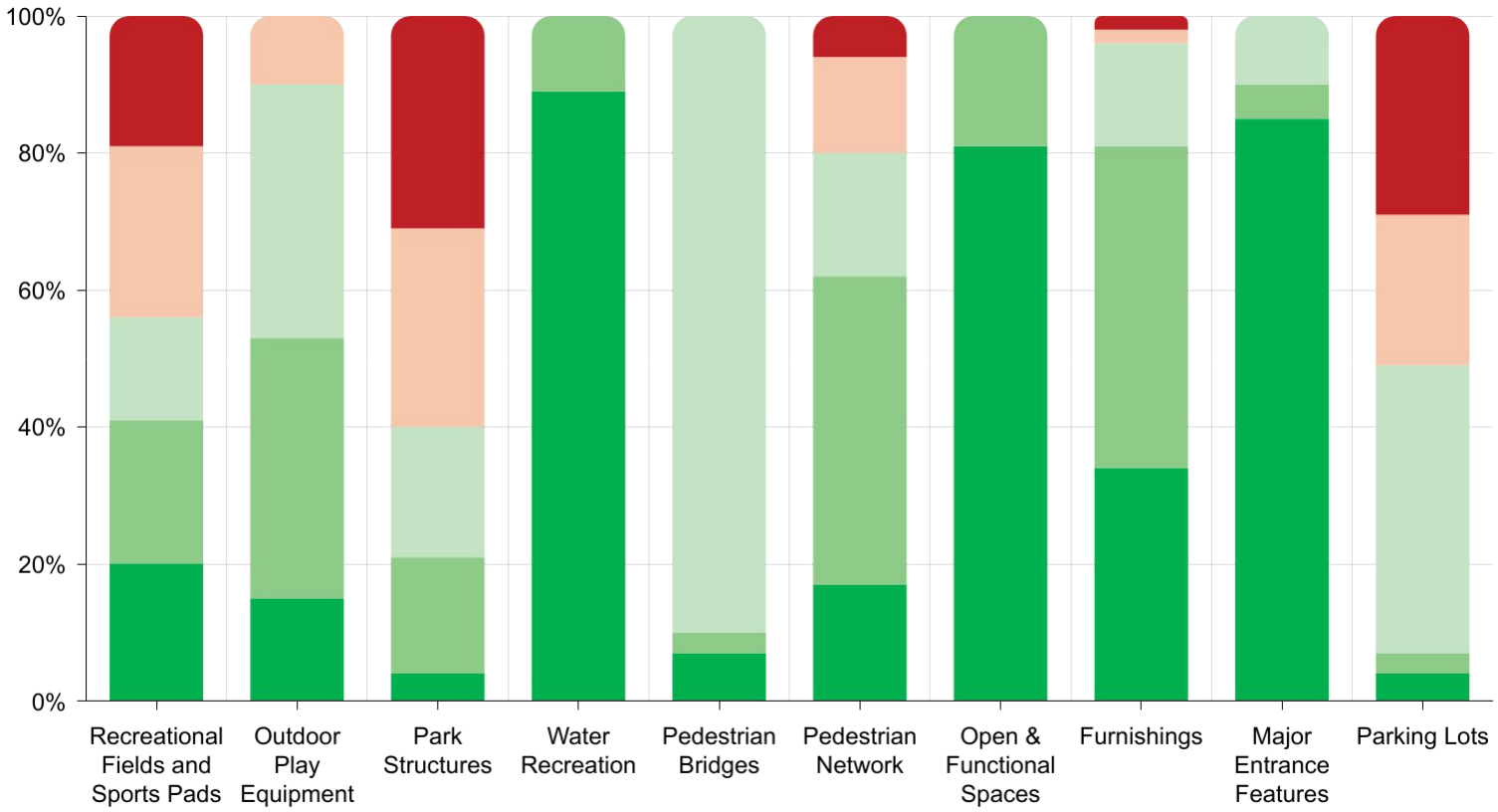
Assets moving in the ranges of very good, good, and fair from **71% to 68%**

Asset moving in the ranges of approaching replacement need and ready for replacement from **29% to 32%**

CURRENT CONDITION



CONDITION BREAKDOWN



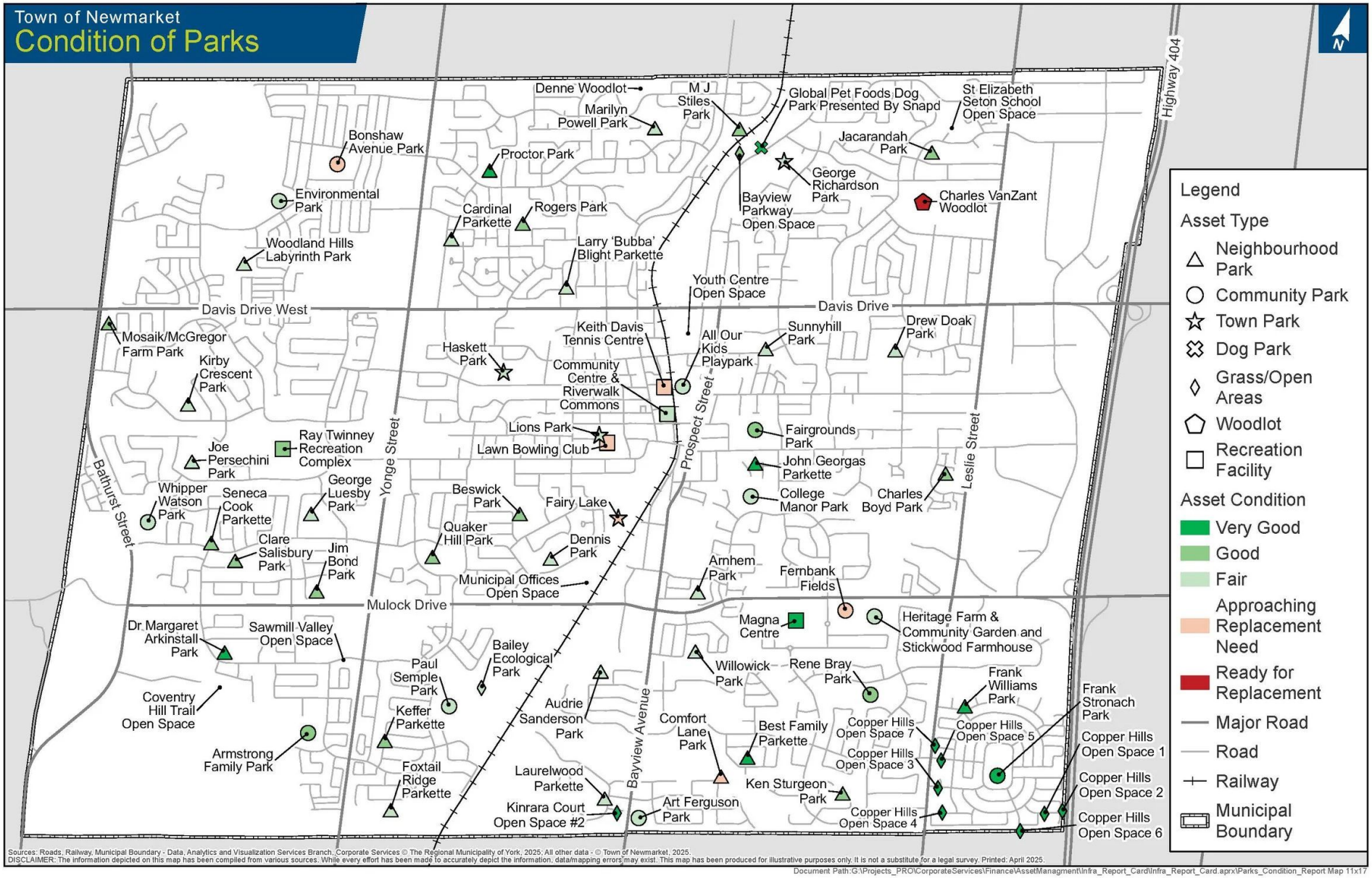


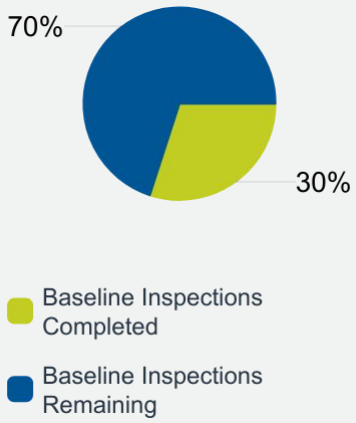
Figure 3 - Asset Scope and Condition Map

Condition Assessment Plan

Condition assessments increase knowledge of the assets, monitor performance, and refine financial projections. The Town currently uses a mix of age based and field condition assessment to determine asset condition.

Pedestrian bridges are inspected bi-annually. Outdoor play equipment is inspected monthly. The condition monitoring schedule for remaining assets are to be determined after 100% completion of baseline field assessments.

Summary of Progress Towards Baseline Inspection Data



Age-Based Assessment:
Complete

Field-Based Assessment: 30% Complete
Next Assessment:
2025

Follow Up Condition Monitoring:
Per regulation or to be determined after baseline assessments are completed.

04 Manage Service Delivery

Asset management is a way of doing business every day. It requires processes to balance the services provided, the risks associated and the cost.

Key takeaways:

- What services do we provide?
- What activities support service delivery?
- What are the risks of our services?

Manage Service Delivery

The Manage Service Delivery section focuses on how asset management balances trade-offs to deliver value. The expenses the Town incurs over the lifecycle of the asset are taken with the goal of ensuring residents and business continue to receive exceptional service from the Town.

Measuring Levels of Service

Levels of Service (LoS) are measured by the service outcomes, asset performance, and supporting activities. They act as guiding benchmarks that inform operations, influence decision-making, and support the effective functioning and safety of assets and service delivery.

Customer Levels of Service

This is the level of service statement the Town commits to providing the customers.

Technical Measure

This is the technical and quantifiable measure of the customer level of service statement. This includes levels of service required by the Province for public reporting under Ontario Regulation 588/17.

These measures provide a framework for monitoring performance, identifying areas for improvement, and ensuring that operational activities align with overall safety and functional requirements.

Levels of Service Alignment

The LoS measures are organized to create alignment between Town strategic objectives, a corporate goal for the service and the subsequent service criteria and technical/customer measures. The benefit of this approach is ensuring the broader goal and outcomes of a service can be monitored and addressed through specific measures and actions. The result of this process is shown on the following page.

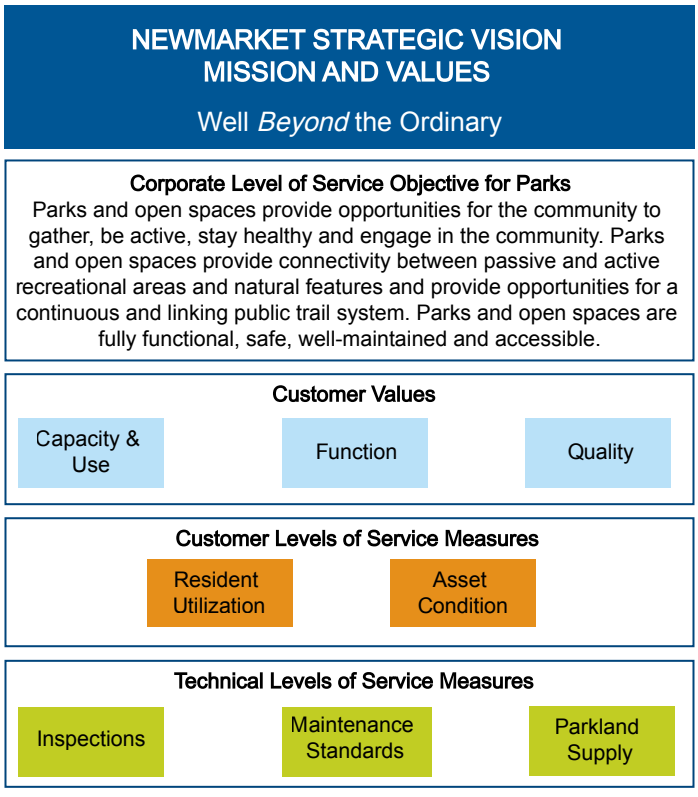


Figure 4 - Levels of Service Alignment

Performance and Results

Levels of service results are presented below using the metrics developed for the Parks Asset Management Plan.

Customer LOS Statement	Technical LOS Measure	2023 Performance	Proposed 2034 Performance
Park system is well managed and safe.	Percentage of existing assets not due for replacement	85	74
	% formal playground inspections completed on time and documented	100	No change
Park system is accessible.	Total parkland (ha) per 1,000 residents	4.3	4.0

Table 1 - Current and Proposed Performance and Results

The Town is not proposing any operational service levels changes at this time as current service levels are appropriate as experienced by the community. Any changes in numbers shown in the proposed performance table are due to aging assets (which lowers condition), asset rehabilitation (which improves condition), or growth. Any potential future adjustments will be assessed based on operational needs, stakeholder feedback, and emerging industry best practices. Performance changes will be documented in future annual update plans.

Legislative Requirements

The Town currently operates within several regulatory requirements. As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

CURRENT LEGISLATIVE REQUIREMENTS

The Town currently operates within several regulatory requirements. Regulations include:

- Playground Equipment and Surfacing Standards CSA Z614:20
- Minimum Maintenance Standards – Ontario Regulation 239/02
- Accessibility for Ontarians with Disabilities Act (AODA)
- Fire Code – Ontario Regulation 213/07
- Electrical Code – Ontario Regulation 164/99
- Standards for Bridges – Ontario Regulation 104/97
- Public Health – Splash Pads
- International Commission on Illumination (CIE) - Standards for Lighting
- Ministry of Environment, Conservation and Parks (MOECP)

As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

NEW UPCOMING LEGISLATIVE REQUIREMENTS

The review of legislative requirements during the development of this plan found no major upcoming legislative requirements that would impact minimum levels of service requirements for the operations and maintenance of Parks assets.

Lifecycle Activities

This table outlines business practices employed by the Town to manage assets and services throughout their lifecycle.

General Parks and Open Spaces Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Park system is well managed and safe.	Park system is well connected across Town.	Park system is accessible.
Acquire and Commission	Construction of new park assets	✓	✓	✓
Operations, Maintenance and Inspections	Misc Maintenance: Masonry maintenance, interlock maintenance, Wood Maintenance	✓		✓
	Grass Cutting & Trimming	✓	✓	✓
	Fall Leaf Maintenance	✓		
	Waste Collection	✓		
	Graffiti Removal	✓		
	Bench Maintenance	✓		✓
	Celebration Bench Program	✓		
	General Park and Dog Park Inspections	✓		
	Dog park maintenance	✓		
	Flood Watch Inspections	✓		✓
	Conditional Assessments	✓		
	AED Inspections (Regulatory)	✓		
Renewal, Rehabilitation and Replacement	Rehabilitation completed where identified and as needed.	✓		
	Replace at end of life for most assets.	✓		

Table 2A - Lifecycle Activities - General Parks and Open Spaces

Lifecycle Activities Continued

Parks Linear Infrastructure Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Park system is well managed and safe.	Park system is well connected across Town.	Park system is accessible.
Acquire and Commission	Constructions of new parks trails, walkways, pedestrian bridges	✓	✓	✓
Operations, Maintenance and Inspections	Snow removal / salting	✓		✓
	Boardwalk, Trail & Walkway Maintenance	✓	✓	✓
	Pedestrian Bridge Maintenance	✓	✓	✓
	Trails & Walkway Inspections	✓	✓	✓
	Boardwalk Inspections	✓	✓	✓
	Pedestrian Bridge Inspections (Regulatory)	✓	✓	✓
Renewal, Rehabilitation and Replacement	Rehabilitation as needed.	✓		✓
	Replace at end of life for most assets.	✓		✓

Table 2B - Lifecycle Activities - Parks Linear Infrastructure

Park Structures Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Park system is well managed and safe.	Park system is well connected across Town.	Park system is accessible.
Acquire and Commission	Construction of new park structures.	✓	✓	✓
Operations, Maintenance and Inspections	Park Structure Inspections (Regulatory)	✓		
	Park structure maintenance and minor repair as needed.	✓		
Renewal, Rehabilitation and Replacement	Rehabilitation as needed.	✓		✓
	Full structural replacement where needed	✓		

Table 2C - Lifecycle Activities - Park Structures

Lifecycle Activities Continued

Outdoor Play Equipment Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Park system is well managed and safe.	Park system is well connected across Town.	Park system is accessible.
Acquire and Commission	Construction of new outdoor play equipment.	✓	✓	✓
Operations, Maintenance and Inspections	Playground Inspections (Regulatory)	✓		
	Playground maintenance and repair as needed (i.e., greasing, replace damaged parts, tighten bolts)	✓		
Renewal, Rehabilitation and Replacement	Replace play equipment	✓		

Table 2D - Lifecycle Activities - Outdoor Play Equipment

Parking Lots Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Park system is well managed and safe.	Park system is well connected across Town.	Park system is accessible.
Acquire and Commission	Constructions of new town parking lots.	✓		✓
Operations, Maintenance and Inspections	Line Painting	✓		
	Snow Removal / Salting	✓		✓
	Asphalt Repairs	✓		✓
	Parking Lot Sweeping	✓		✓
	Parking Lot Inspections (Non-Regulatory)	✓		✓
Renewal, Rehabilitation and Replacement	Rehabilitation where possible.	✓		
	Replace at end of life for most assets.	✓		

Table 2E - Lifecycle Activities - Parking Lots

Lifecycle Activities Continued

Recreational Fields and Sport Pads Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Park system is well managed and safe.	Park system is well connected.	Park system is accessible.
Acquire and Commission	Construction of new sport fields and pads.	✓	✓	✓
Operations, Maintenance and Inspections	Seasonal Opening / Closing	✓		
	Sports Field Maintenance: (i.e. fertilizing, core aeration, deep tinning, slip seeding, over seeding, top dressing, aeration)	✓		
	Sports Field Line Painting	✓		
	Hard Court Scheduled Maintenance (i.e. line painting)	✓		
	Recreational Field Inspections (Non-Regulatory)	✓		
Renewal, Rehabilitation and Replacement	Rehabilitation were possible.	✓		✓
	Replace at end of life for most assets.	✓		✓

Table 2F - Lifecycle Activities - Recreational Fields and Sport Pads

Skate Park Lifecycle Strategy

Lifecycle Phase	Lifecycle Activity	Park system is well managed and safe.	Park system is well connected.	Park system is accessible.
Acquire and Commission	Construction of new park assets	✓	✓	✓
Operations, Maintenance and Inspections	Skate park inspections	✓		
	Skate park maintenance and minor repair as needed.	✓		
Renewal, Rehabilitation and Replacement	Rehabilitation were possible.	✓		✓
	Full structural replacement where needed	✓		✓

Table 2G - Lifecycle Activities - Skate Park

Risk

Risk can be assessed at multiple levels. This plan will evaluate risk from two key perspectives: service-level risk, which pertains to potential impacts that may disrupt the delivery of services to the public and community, and asset-level risk, which focuses on the exposure of the assets themselves.

The chart below illustrates asset risk. The risk assessment was conducted on a risk assessment matrix based on likelihood of failure and the consequence of failure.

PARKS RISK PROFILE

Likelihood of Failure

- Age & Expected Service Life
- Bridge Condition Inspection (BCI) for Pedestrian Bridges
- Observed Condition Inspection (OCI) for Baseball Diamonds/Batting Cages, and Parking Lots
- Condition for all other assets estimated based on age and estimated service life

Consequences of Failure

- Health & Safety
- Environment Impacts
- Operational Impacts
- Corporate Image
- Third Party Losses/Damages
- Financial Impact

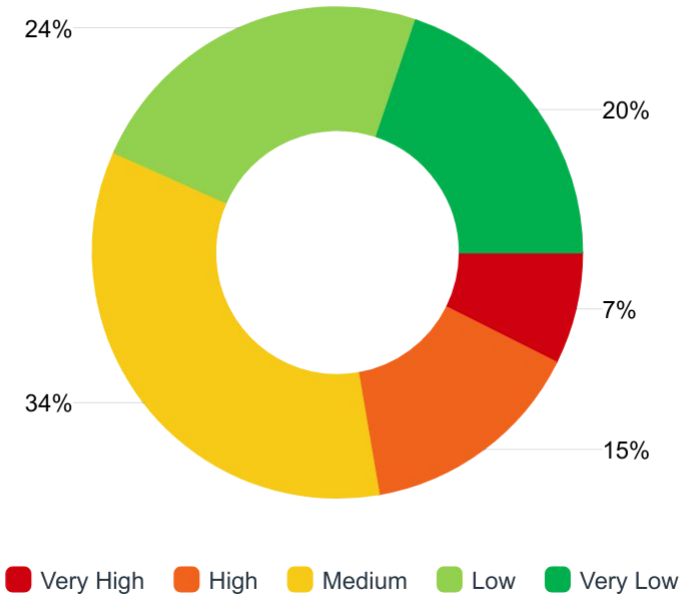


Figure 5 - Asset Risk Profile

05 Future Ready

What was once a small but thriving Town, today Newmarket is a desirable and affordable community. While the future is bright, trends like increasing service expectations, urbanization, and climate change are challenging the status quo. The future will change how the Town manages assets.

Key takeaways:

- What increases in asset-related services are expected?
- How will climate change impact assets?

Future Ready

Ongoing and future trends will impact the way the Town delivers its services and manages its assets. Proactively identifying these trends and pressures allows the Town to account for risk and take advantage of opportunities. Using planning to maintain a future outlook allows for a balance between maintaining present services while managing growth.

The Future Ready section will discuss the following:

Growth

An outlook of forecasted growth in the asset portfolio.

Climate Change

Vulnerabilities and adaption and mitigation approaches to climate change, specifically flooding. Results of a flood risk assessment are provided as flooding is the first of several types of climate considerations to be applied in the future.

Growth Planning in Newmarket & Population

The Town of Newmarket is expected to grow from its current population of approximately 90,700 residents to a future population of 118,500 by 2051 according to provincial and regional plans. At the same time, the employment base is projected to grow from 45,000 to 58,100 jobs.

		2021	2031	2041	2051
Newmarket	Population	90,700	98,900	107,200	118,500
	Employment	47,500	50,600	53,900	58,100

Table 3 - Newmarket Growth in Population and Employment

To support this population, more assets and new types of assets may be required to provide asset-related services and to maintain service levels. The asset management plans reflect planning efforts to coordinate assets and population growth. The asset management plans reflect planning efforts to coordinate assets and population growth in alignment with the 2019-2028 Development Charges Background Study.

Identified Growth

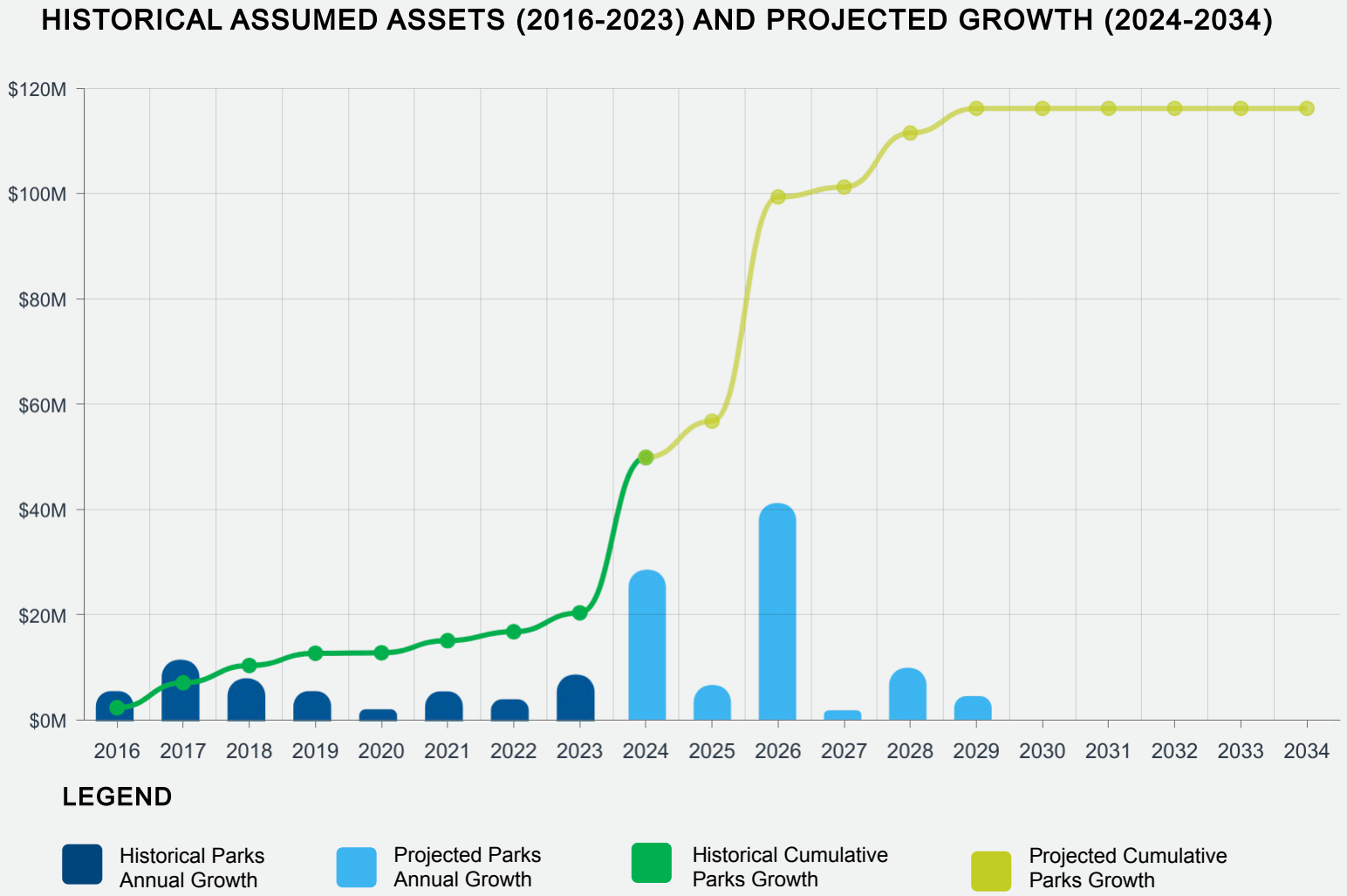


Figure 6 - Historical Assumption and Projected Growth

The following table summarizes asset increases in the asset portfolio. Information on growth values and impacts will be discussed in the Financial Context section.

Years	Growth / New Assets
2024	$29,510,744
2025	$6,874,527
2026	$42,606,253
2027	$1,900,000
2028	$10,260,000
2029	$4,673,446
2030	-
2031	-
2032	-
2033	-
2034	-
TOTAL	$95,824,970

Table 4 - Asset Growth Forecast

Climate Change Assessment

To prepare for climate change impacts, the Town engaged with the Ontario Climate Consortium (OCC) to conduct a corporate-wide flood risk resilience assessment of Town-owned infrastructure. The study used an indicator-based tool to evaluate flood risk based on:

1. **Hazard** – Geospatial factors influencing riverine, overland, and groundwater flooding.
2. **Vulnerability** – Operational, social, economic, and environmental factors affecting an asset's susceptibility to flooding.

PARKS FLOOD RISK ASSESSMENT

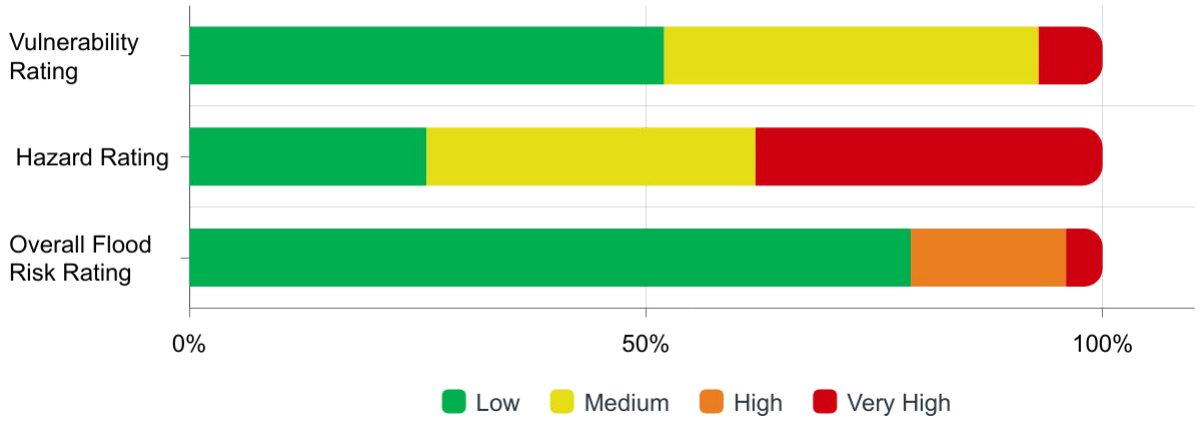


Figure 7A - Flood Risk Assessment Results - Parks

PEDESTRIAN BRIDGES FLOOD RISK ASSESSMENT

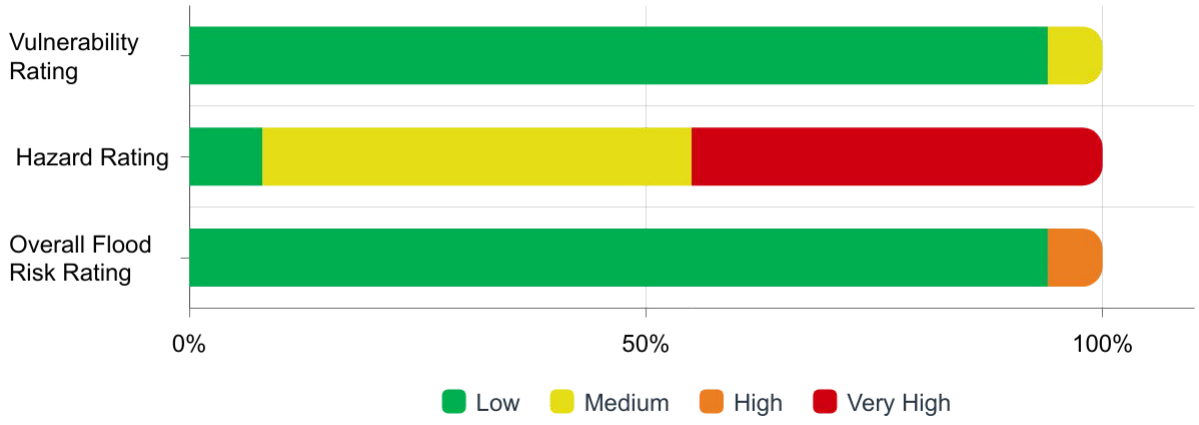


Figure 7B - Flood Risk Assessment Results - Pedestrian Bridges

06 Financial Context

The Financial Context section brings together the data and analysis from previous sections to provide a clear view of the Town's financial situation regarding its assets. It reviews historical and current practices and future outlook based on anticipated growth. Three scenarios are introduced here to explore different levels of service based on asset condition and funding levels.

Key takeaways:

- What are the Town's current financial practices for asset management?
- What operating budget supports our assets?
- What is the long-term financial impact of growth, based on the total lifecycle of the assets?

Financial Strategy

The sustainability of Town infrastructure depends on effective management and ensuring the optimal use of available funds. The Town of Newmarket has developed a Financial Strategy to evaluate the relationship between current investment levels, service outcomes and risk of service failures. The financing strategy strengthens the budget process by reinforcing a long-term perspective of service levels. The Town modelled and prepared an analysis of three scenarios over a 10-year time horizon to determine the Proposed Levels of Service.

Capital Financial Strategy

The history of the Town's financial contributions and capital spending practices were used to inform the financial analysis conducted. This historical context provides valuable insights into the Town's fiscal health, helping to inform future financial planning and decision-making processes.

Year	Parks Reserve Contribution	Reserve Contribution as a Percentage of 2023 Replacement Value
2018	$2,004,012	1.98%
2019	$1,317,512	1.30%
2020	$1,317,512	1.30%
2021	$1,287,512	1.27%
2022	$1,409,677	1.39%
2023	$1,573,475	1.55%

Table 5 - Historical Reserve Contributions

Year	Parks Capital Spending on Existing Assets	Capital Spending as a Percentage of 2023 Replacement Value
2018	$1,026,986	1.01%
2019	$1,263,030	1.25%
2020	$432,058	0.43%
2021	$388,704	0.38%
2022	$244,116	0.24%
2023	$1,368,876	1.35%

Table 6 - Historical Capital Spending

Estimated Future Reserve Contributions

The Town's reserve contributions are geared towards long-term financial planning and to balance funding with future renewal costs. These projections will be reviewed each year through internal processes and Council-approved budgets. The Town has proposed a 1.5% annual tax increase, subject to the annual budget process, to help fund future capital asset replacements. It is assumed to continue for the next 10 years for all tax-supported assets. Funding increases for service areas would be proportional, with additional factors from the Reserve & Reserve Fund Review taken into account. The forecasted reserve contributions are based on the current population, tax collection rates, and expected population growth, along with the economic activity outlined in the Future Ready section.

Year	Estimated Future Reserve Contributions
2025	$1,345,572
2026	$1,460,918
2027	$1,579,751
2028	$1,700,326
2029	$1,822,668
2030	$1,946,804
2031	$2,077,193
2032	$2,209,538
2033	$2,343,868
2034	$2,480,213

Table 7 - Estimated Future Reserve Contributions

Parks Scenario Methodology

To forecast capital investment need, consolidation of inventory, replacement cost, condition, levels of service, risk, and lifecycle activities as shown throughout the AMP was completed.

Three scenarios were created to answer key questions about current budget, future requirements, sustainability and proposed levels of service. Analysis is carried out in Decision Optimization Tool, the Town's risk-based investment planning software. The scope of the analysis is the capital cost of replacing existing assets. During the annual budget process, these estimates are reviewed and refined with additional cost drivers for staff delivery capacity, operational impacts, and detailed designs.

Scenario	Description of Scenario Constraints and Objectives
1 – Current Budget	The purpose of the current budget scenario is to calculate the level of service achievable with current funding. Scenario parameters are: • Maximize network performance for limited funds. • Based on current funding as of 2025.
2 – Needs Based	The purpose of the needs-based scenario is to calculate the true cost of maintaining the full asset inventory at current service levels for comparison with current practice. Scenario parameters are: • Limit the number of very poor assets to 5%. • Minimize the cost of maintaining asset portfolio but no budget constraint. • Maintain current levels of services.
3 – Proposed Levels of Service	Proposed Levels of Service documents the Town's financial strategy to increase the capital funding of asset replacements in recognition of the prevailing trends of aging assets. This is achieved through alignment with the Town's Fiscal Strategy and the Reserve Fund Review, which identifies a path to achieving sustainable asset funding levels through a long-term strategy. This strategy will be further reviewed in the Proposed Level of Service section. Scenario parameters are: • Maximize network performance for limited funds. • Employ risk-based prioritizations within the investment planning software to minimize risk. • Increase asset replacement funding from 2025 levels using the strategies identified in the Reserve Fund Review. Proposed Levels of Service are the basis for the 2025 Asset Management Plans.

Table 8 - Scenario Methodology

Parks Scenario Results

The figures on the following pages illustrate how the cost of renewals for different service targets and the condition of Parks are forecasted to change over time under all three scenarios.

SCENARIO 1 | CURRENT BUDGET

- Calculate the level of service achievable with current funding.
- Maximize network performance for limited funds.
- Based on current funding as of 2025.

CONDITION FORECAST

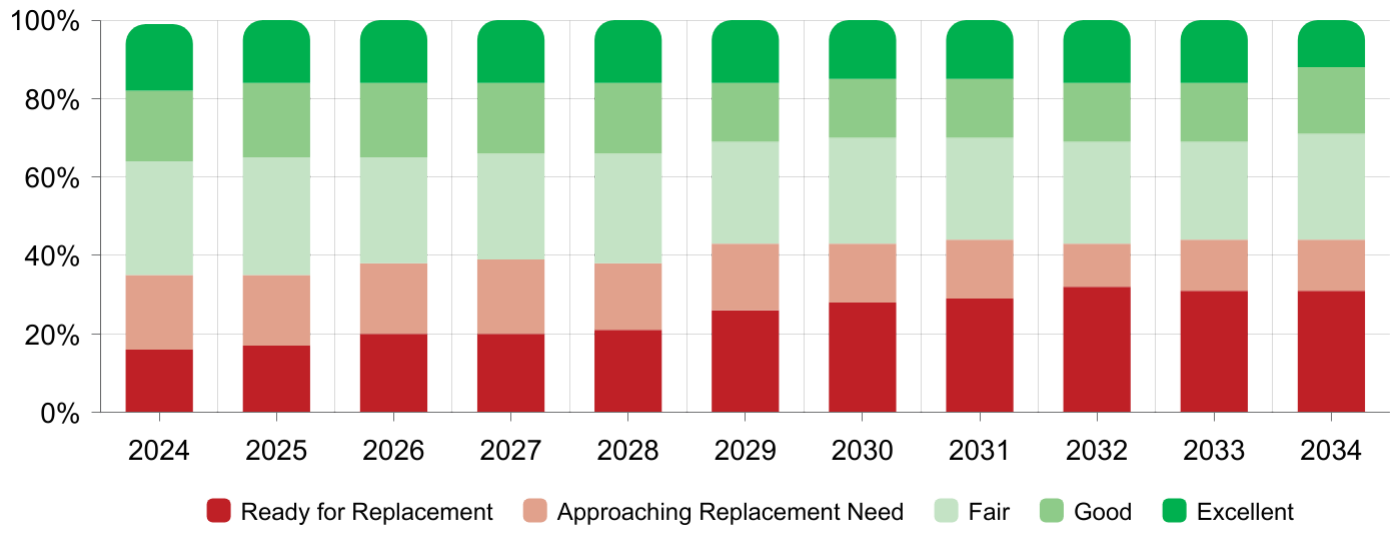


Figure 8 - Forecasted Condition over 10 Years - Current Budget

CAPITAL EXPENDITURE

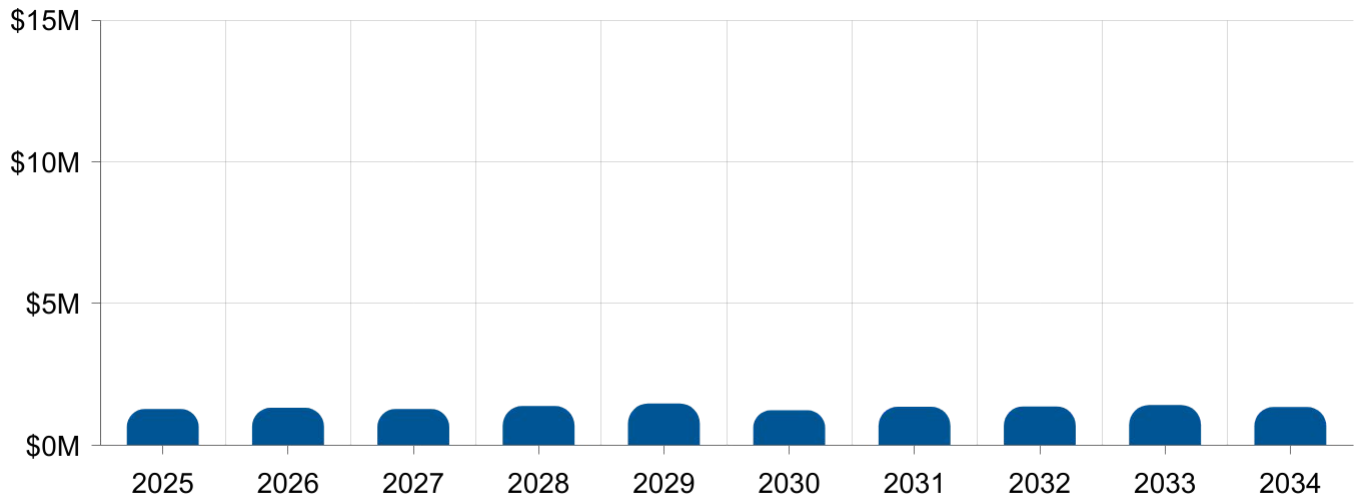


Figure 9 - Forecasted Capital Expenditure over 10 Years - Current Budget

SCENARIO 2 | NEEDS BASED

- Calculate the true cost of maintaining the full asset inventory
- Limit the number of Ready for Replacement assets to 5%
- Minimize the cost of maintaining asset portfolio, but no budget constraint

CONDITION FORECAST

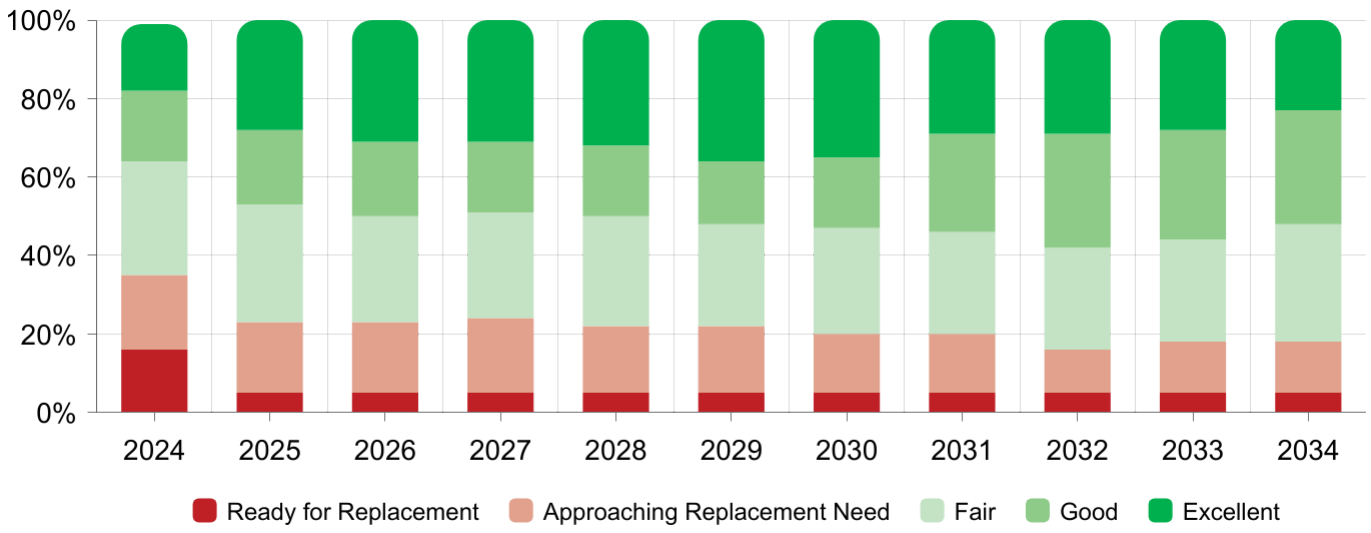


Figure 10 - Forecasted Condition over 10 Years - Needs Based Budget

CAPITAL EXPENDITURE

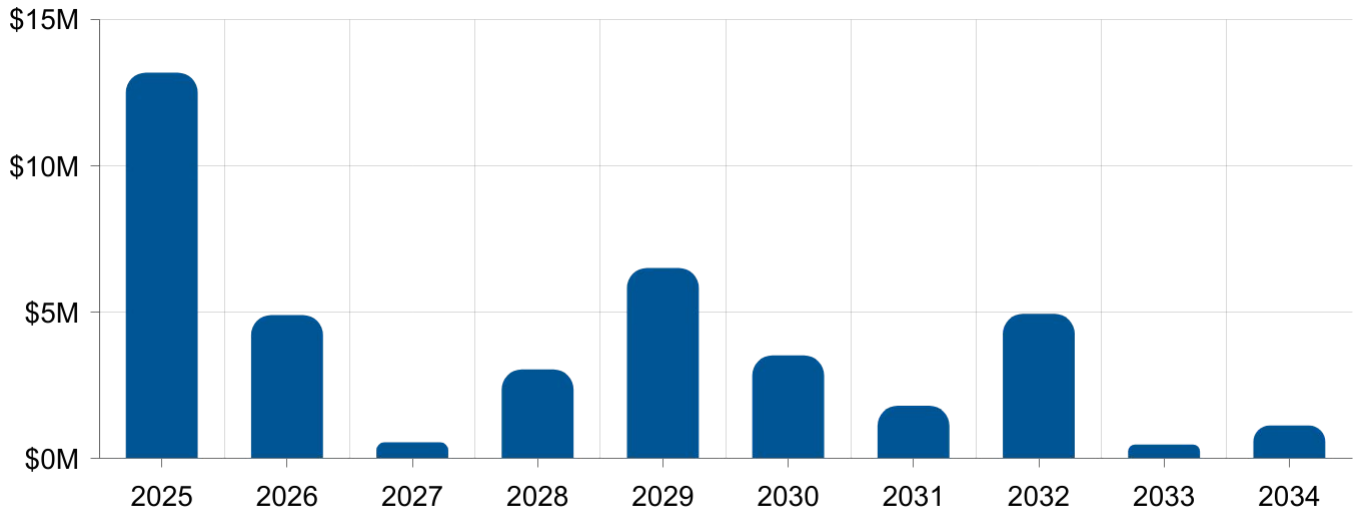


Figure 11 - Forecasted Capital Expenditure over 10 Years - Needs Based Budget

SCENARIO 3 | PROPOSED LOS

- Maximize network performance for limited funds.
- Employ risk-based prioritizations to minimize risk.
- Increase asset replacement funding as identified in the Reserve Fund Review.

CONDITION FORECAST

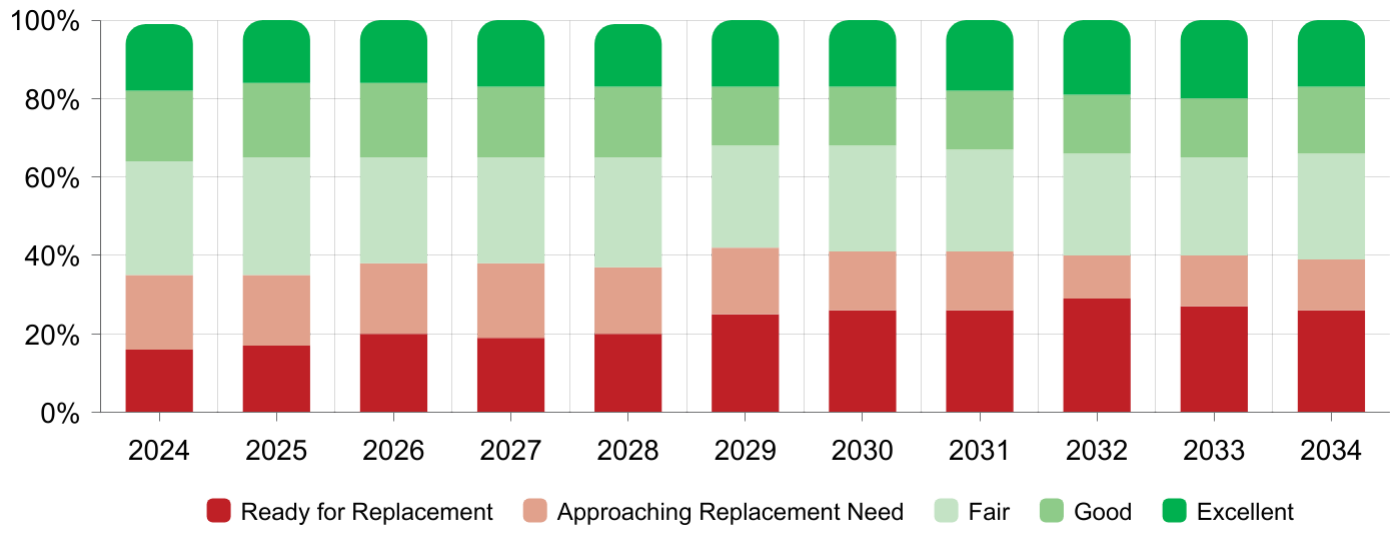


Figure 12 - Forecasted Condition over 10 Years - Proposed LOS Budget

CAPITAL EXPENDITURE

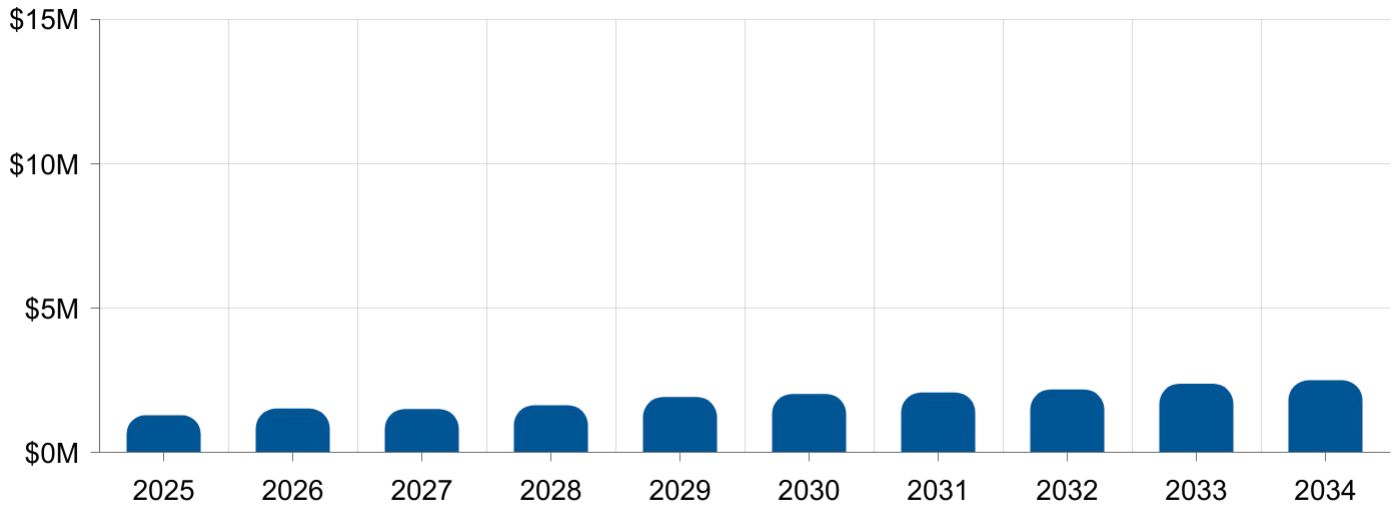


Figure 13 - Forecasted Capital Expenditure over 10 Years - Proposed LOS Budget

Operations & Maintenance

Using the Town's framework for lifecycle activities, the Town's operations and maintenance budget reflects the cost of delivering asset-related services for the activities occurring after acquisition and outside of rehabilitation, replacement, and decommissioning. These are listed in Manage Service Delivery.

The Town is not proposing levels of service changes to its operational lifecycle delivery, as identified in the performance results shown in Levels of Service section and discussed further in Proposed Levels of Service.

$5.76M

Annual O&M cost for Parks assets

Financial Impacts of Growth

When a new asset is commissioned, it begins a lifecycle of service and costs. The total value of growth in assets by replacement value identified in Future Ready is as follows. This asset management value may vary from other estimates which consider local factors, developer agreements, or staff resources needed to support growth. This figure includes preliminary estimates that could change with project definitions, data improvements, and construction price inflation.

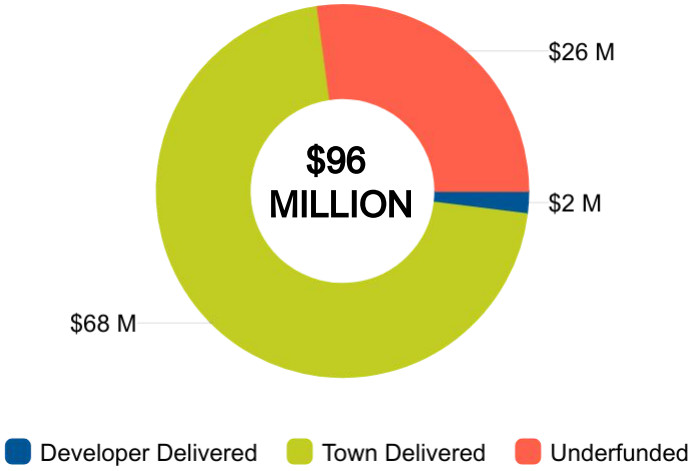


Figure 14 - Total Value of Growth by Funding Source

While providing services, new assets also requires operations, maintenance, and eventual replacement. Acquiring an asset means anticipating future costs, which is essential for financial planning and understanding the total cost of ownership. To reflect this, the Financial Impact of Growth depicts two types of cost: annual O&M cost and reserve fund contribution. These estimates will be refined as projects are scoped and designed.

Annual Operating Impact

The annual operating impact reflects the cost of maintaining assets at current service levels, including inspections, cleaning, and energy use. These costs are estimated by scaling current service levels to match growth and are measured in operating dollars per year. Using the asset quantities forecasted in Future Ready, the increases in operations and maintenance costs to maintain current service levels over the next 10 years is expected to be as shown below. This forecast will be reviewed and refined through the annual budget process as projects are scoped and operational needs are confirmed.

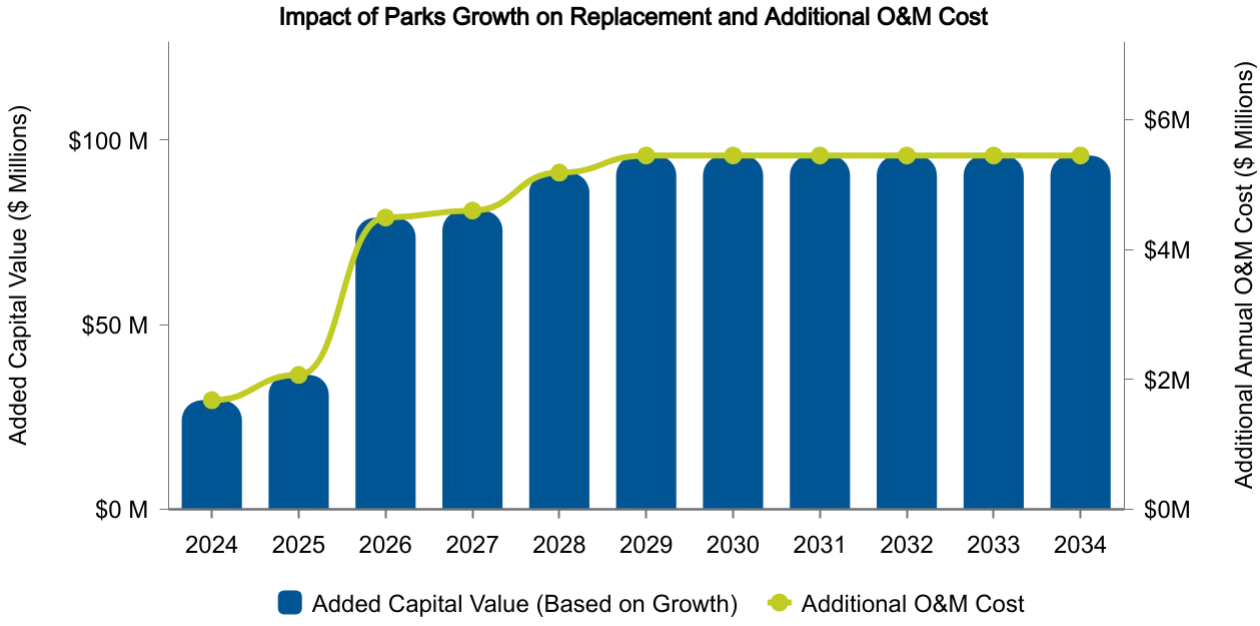


Figure 15 - Impact of Growth on Replacement Cost and Additional Annual O&M Cost

Financial Impacts of Growth - Continued

Reserve Fund Contribution for Sustainable Replacements

Annual reserve contributions ensure funds are available to replace assets at the end of their useful life by spreading costs evenly over time. This prevents a backlog of future replacements and supports asset sustainability. The contribution is calculated by dividing total replacement costs by average asset lifespan. It excludes other capital costs like upgrades, or staff resources to supported added capital delivery. It assumes based on the Town's Reserve Fund Review that the Town can achieve this ratio of funding for all of its assets over time. The graph below shows the increased annual contributions required to sustain future capital replacements.

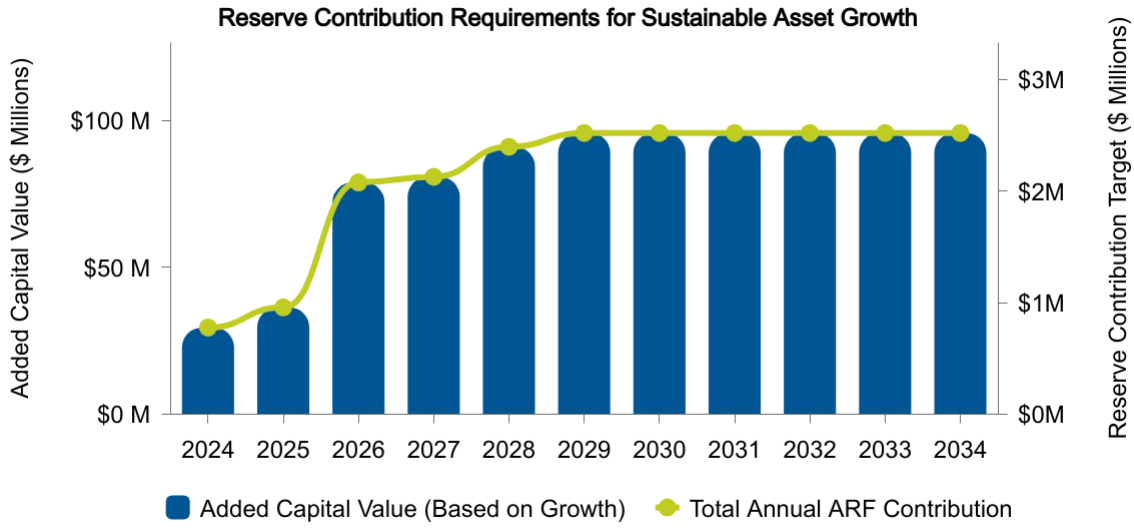


Figure 16 - Reserve Contribution Requirements for Sustainable Asset Growth

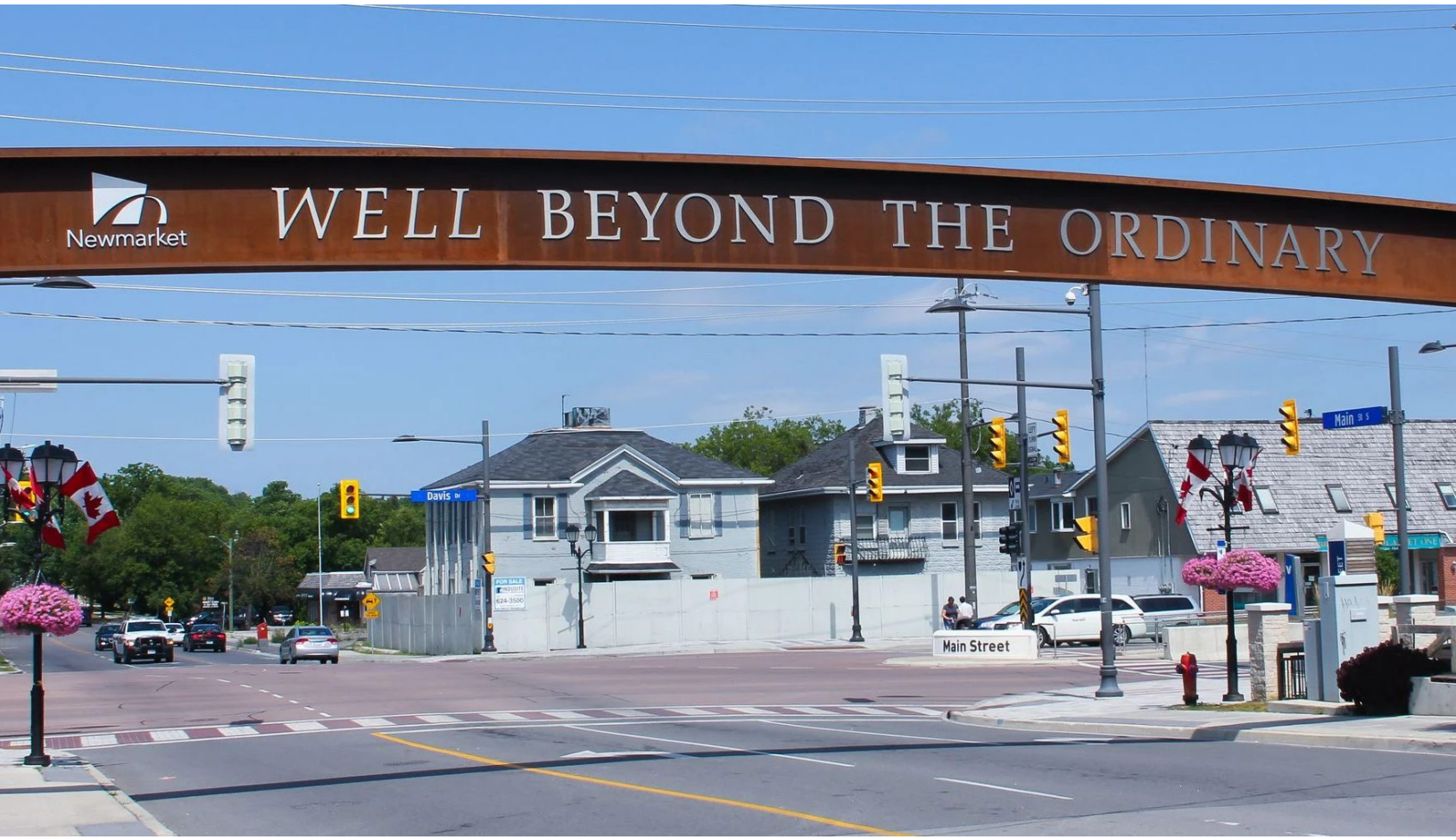
Total Cost of Growth

Accounting for both operational and maintenance costs and reserve contribution requirements, the total estimated annual cost of growth is summarized in the table below. The funding of the growth impacts is discussed further in Proposed Levels of Service.

Financial Impact by Year	Growth in Assets (Replacement Value)	Annual Total O&M Costs	Annual Reserve Contribution Target	Total Annual Financial Impact of Growth (Cumulative)
2024	$29,510,744	$1,678,454	$776,599	$2,455,053
2025	$6,874,527	$390,996	$180,909	$3,026,957
2026	$42,606,253	$2,423,275	$1,121,217	$6,571,449
2027	$1,900,000	$108,064	$50,000	$6,729,513
2028	$10,260,000	$583,548	$270,000	$7,583,061
2029	$4,673,446	$265,807	$122,985	$7,971,854
2030	$0	$0	$0	$7,971,854
2031	$0	$0	$0	$7,971,854
2032	$0	$0	$0	$7,971,854
2033	$0	$0	$0	$7,971,854
2034	$0	$0	$0	$7,971,854

Table 9 - Total Cost of Growth Summary over 10 Years

07 Proposed Levels of Service



Proposed Levels of Service forecasts the projected service levels the Town will deliver through its assets using a financial strategy in alignment with O.Reg. 588/17. The Proposed Levels of Service forms the basis for 10-year forecasting, annual budget recommendations, risk management, and performance monitoring. It incorporates information from all previous sections of the asset management plans.

Key takeaways:

- What is the proposed level of service based on a holistic view of the combined factors (cost, level of service, risk)?
- How is the proposed level of service achieved?
- What is the proposed level of service performance forecast?
- What is the financial summary of the proposed level of service?

Proposed Levels of Service

Concluding the Asset Management Plans in accordance with O.Reg. 588/17, Proposed Levels of Service can be summarized based on financial analysis and the information contained throughout the plans.

Levels of Service Achieved Through Capital Renewals and Replacements

The Proposed Levels of Service Scenario including its funding and asset conditions are the Town's selected plan for funding renewals and replacement. It considers risk associated with aging assets against the Town's goals of sustainably providing quality asset-related services at a level that is affordable and appropriate for the community.

Level of Service Option	Rationale	Funding Achieved Over 10 Years	Funding Gap
Scenario 1 Current Budget	Current Budget reflects that the Town currently provides strong levels of funding for maintaining its assets, but what was sufficient for historical levels of renewal will not be appropriate going forward as assets continue to age. The decrease in service levels over 10 years are not a rate that is sustainable or appropriate for the community and would reflect an increase in risk.	$13.45 M	($26.51 M)
Scenario 2 Needs Based Budget	Needs Based expands on Scenario 1 by showing the financial needs associated with maintaining an aging asset portfolio. This shows that the true cost of maintaining the Town's assets is more costly than what the Town currently provides. When combined with a risk-based approach, this was used to inform Scenario #3 Proposed Levels of Service.	$39.95 M	N/A
Scenario 3 Proposed Levels of Service	Proposed Levels of Service aligns with the Town's overarching financial strategy, balancing levels of service, risk, and affordability. It shows some potential decrease in service levels in the short term at a rate that is acceptable when balanced against affordability concerns and risk assessments. The Fiscal Strategy and Reserve Fund Review demonstrates that service levels can be achieved over a longer term. The financial strategies include rate-supported financial plans, increased tax-supported contributions to asset management funds, reserve management and investments, assessment growth, use of provincial and federal grants, interfund-borrowing, annual budgeting, and where allowable a role for external debt funding of capital projects.	$18.96 M	($21.00 M)

Table 10 - Levels of Service Options Funding Gap

Levels of Service Achieved Through Operations and Maintenance

The Town is not proposing any material changes or enhancements to the lifecycle activities and operational service levels. This is because:

- In accordance with the Municipal Act and Town municipal funding practices, the operating budget is considered a sustainable source of funding operations and maintenance through rate and tax-supported annual budgets.
- The current service levels are affordable and appropriate as they are already experienced by the community.
- Maintaining current service levels allows the Town to acquire asset expansions associated with population growth using assessment growth, without further financial impacts. This is part of the Town's Fiscal Strategy.
- The assessed risk of the condition of the assets based on the funding of renewals is within the Town's operational capacity to mitigate potential risks.

Cost of Current Levels of Service	Proposed Levels of Service	Shortfall
$5,765,547.05	No Change	$0

Table 11 - Proposed Levels of Service O&M Funding Shortfall

Levels of Service Maintained With Growth

The expected growth in population demonstrates the need to expand and intensify assets used to maintain service levels. The forecasts of asset growth show increases to the asset portfolio in line with population increases. The Town funds the acquisition, operations and future replacement of growth assets to maintain strong services to the community. The shortfall in acquisition costs can be attributed to provincial legislation and was first reported by the Town in 2024. The shortfall occurs after current capital projects during the future 10-year forecast. Steps to limit the shortfall already include the use of reserves, developer agreements, grants, donations, and sponsorships. These cost estimates do not include the human resources of delivering growth assets.

Value of Assets to Support Proposed Levels of Service through Growth	Value of Developer Delivered Assets	Value of Town Delivered Assets	Shortfall
$95,824,970	$1,909,077	$67,915,893	($26,000,000)

Table 12 - Growth Capital Funding Shortfall

Once assets are operational, it was shown there is a new operating cost to maintain them. To achieve the Proposed Level of Service for new assets as well as existing assets, the Town incorporates growth principles into its budget process by reserving the use of assessment growth to fund the operations of new assets. This ensures that growth in population, growth in assets, assessment growth, and service levels achieve parity as intended by the Development Charges Act. The operational financial impacts of each growth project will be refined through the budget process. The operational financial impacts of each growth project will be refined through the budget process.

Total Operating Impact of Growth for Proposed Levels of Service	Forecasted Operating Budget Allocated Through Assessment Growth	Shortfall
$5,450,144	$5,450,144	$0

Table 13 - Growth O&M Funding Shortfall

Service Risk

After considering the trade-offs between service levels and affordability, risk was considered to confirm service levels are appropriate. Risks were identified and mitigated to levels that are appropriate for the community and the Town's operations and maintenance program. Risks associated with the Proposed Levels of Service are:

Service Risk	Mitigation Measures	Residual Risk
Aging infrastructure increasing maintenance costs.	Proactive maintenance programs to keep assets in good to fair condition for as long as possible.	Monitor for increasing maintenance costs and any backlog in capital repairs.
Assets ready for replacement are not suitable for use or pose safety concerns.	Regular inspections of all park assets ensure any issues are identified preemptively. Temporary repairs are made and full replacements are planned. If issues persist, an asset will be taken out of service while a replacement is scheduled.	Availability of assets in favor of safety precautions.
Impacts on park asset repairs based on availability and supply chains for spare parts.	Forecast asset replacement needs. Spare parts strategy. Conduct preventive maintenance.	Repairs will only be lengthened when new design means existing parts can't be used.
Asset wear and tear through increasing customer service volumes.	Expansion and growth plans. Manage programming by location. Trail ambassador.	Impacts of operations will be mitigated by expanded park offerings shown in the growth forecast.
Slips, trips, and fails associated with park assets.	Inspections, cleaning, and repairs. Park design standards. Customer feedback. Summer sidewalk patrol program. Wayfinding and signage.	Low risk of slips trips and fails associated with changing asset conditions.
Resilience and capacity of infrastructure to withstand the impacts of climate change.	Flood monitoring and pre and post-storm performance checks. Engineering design standards and updates. Adoption of LID and other technologies. Facility retrofits.	Varies with climate scenario, to be verified with ongoing monitoring, research and development, reporting.
Construction price inflation of assets planned through growth.	Competitive procurements, value engineering, marketing partnerships, annual reviews and updates, DC study updates, multi-year capital plans.	Market price increases between planning and construction may still occur.

Table 14 - Service Risk and Mitigation Measures

Proposed Levels of Service Performance

Proposed Levels of Service have been considered across the asset lifecycle, financially costed, and analyzed for risk. To quantify service levels, the performance measures identified by Managed Service Delivery can be projected out to 2034. These service levels will be monitored and reviewed annually. The Town's proposed levels of service measures are:

Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Percentage of existing assets not due for replacement	83%	80%	81%	80%	75%	74%	74%	71%	73%	74%
% formal playground inspections completed on time and documented										N/C
Total parkland (ha) per 1,000 residents										4.0

Table 15 - Proposed Levels of Service Performance

N/C - No change

Financial Summary

Throughout the Proposed Levels of Service process, the Town defined several financial strategies to achieve its proposed levels of service. These included:

- Increasing asset renewal funding through a wide range of reserve management methods focused on larger contributions, balancing risk and affordability.
- Planning asset growth in-line with population growth, and including development charges and assessment growth as part of asset financial planning.
- Maintaining operations and maintenance funding at current levels to support consistent annual lifecycle activities.
- Integrating asset management planning with the annual budget process so initial estimates and recommendations can be refined to incorporate detailed designs, capital delivery capacity, and operations and maintenance impacts of changes in assets.

When each analysis is combined, the total cost of the asset lifecycle over the next 10 years can be summarized as follows:

Financial Impact by Year	Existing Assets			Growth Assets		
	Base Operating Costs	Proposed Replacement Capital Spending	Cumulative Capital Shortfall	One-Time Capital for Growth	Annual Operating Impacts of Growth	Annual Reserve Contributions for Growth
2025	$5,765,547	$1,281,144	($11,892,368)	$6,874,527	$2,069,450	$957,507
2026	$5,765,547	$1,506,019	($15,273,469)	$42,606,253	$4,492,724	$2,078,724
2027	$5,765,547	$1,499,648	($14,313,102)	$1,900,000	$4,600,789	$2,128,724
2028	$5,765,547	$1,630,794	($15,712,350)	$10,260,000	$5,184,337	$2,398,724
2029	$5,765,547	$1,907,732	($20,305,085)	$4,673,446	$5,450,144	$2,521,710
2030	$5,765,547	$2,023,339	($21,795,262)	$0	$5,450,144	$2,521,710
2031	$5,765,547	$2,073,112	($21,510,195)	$0	$5,450,144	$2,521,710
2032	$5,765,547	$2,170,028	($24,273,056)	$0	$5,450,144	$2,521,710
2033	$5,765,547	$2,372,235	($22,370,595)	$0	$5,450,144	$2,521,710
2034	$5,765,547	$2,491,405	($20,995,419)	$0	$5,450,144	$2,521,710

Table 16 - Total Cost of Asset Lifecycle over 10 Years

Managing Shortfalls

It is understood that an infrastructure funding gap is common among municipalities. Studies have shown Canadian municipalities carry a disproportionate burden for infrastructure investments, relative to the municipal share of all governmental funding seen in Canada. Based on Statistics Canada benchmarking, the Town is in a better than average position for its infrastructure assets. The Town is committed to optimizing the use of limited funds to provide strong services to the community while continuing to seek additional funding. Each stream of service delivery was considered for funding impacts. There were funding shortfalls that could not be addressed, resulting in the Town's proposed levels of service. The growth shortfall is not attributable to current capital projects but is projected to occur during the 10 year plan based on provincial legislation.

Service Delivery	Total Shortfall Over 10 Years
Capital	($20,995,419)
Operating	$0
Growth	($26,000,000)

Table 17 - Proposed Levels of Service Funding Shortfall Summary

Based on the Town's Proposed Levels of Service, the Town will move forward with the adopted financial strategy conceding the shortfall and the associated trade-offs. The Town will continue to seek additional funding opportunities identified in the Fiscal Strategy and will monitor performance for future updates.

08 Conclusion

Newmarket's asset management planning process advances the Town's objectives for financial sustainability, and demonstrates a commitment to Town values of being Well Beyond the Ordinary. Asset management is a continuous improvement process. Through iterations of development and implementation, new asset management capabilities can develop and others can improve.

The Asset Management Plans is a significant milestone, and part of a broader implementation of asset management capabilities by the Corporate Asset Management Office (CAMO) and Town business units. The Town will review and update asset management plans every five (5) years. Plans will be approved and endorsed by Town Council.

Asset management is not a document or a software. It is a way of doing business every day, and a lifelong journey to improve the Town. Through this journey, the Town can truly become Well Beyond the Ordinary.

2025

Facilities Asset Management Plan

Newmarket

Acknowledgements

Community Services Commission
Facility Services
Engineering Services
Recreation & Culture
Data Analytics And Geospatial Services
Financial Services
Corporate Asset Management
Asset Management Steering Committee
Infrastructure Solutions Inc.

02 Table of Contents

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03 Know Your Assets

The Town is responsible for $3 Billion+ of assets. Assets exist to provide services to the community. Their ability to deliver services depends on Town stewardship and informed decision making. As assets age, they have to be repaired or replaced.

Key takeaways:

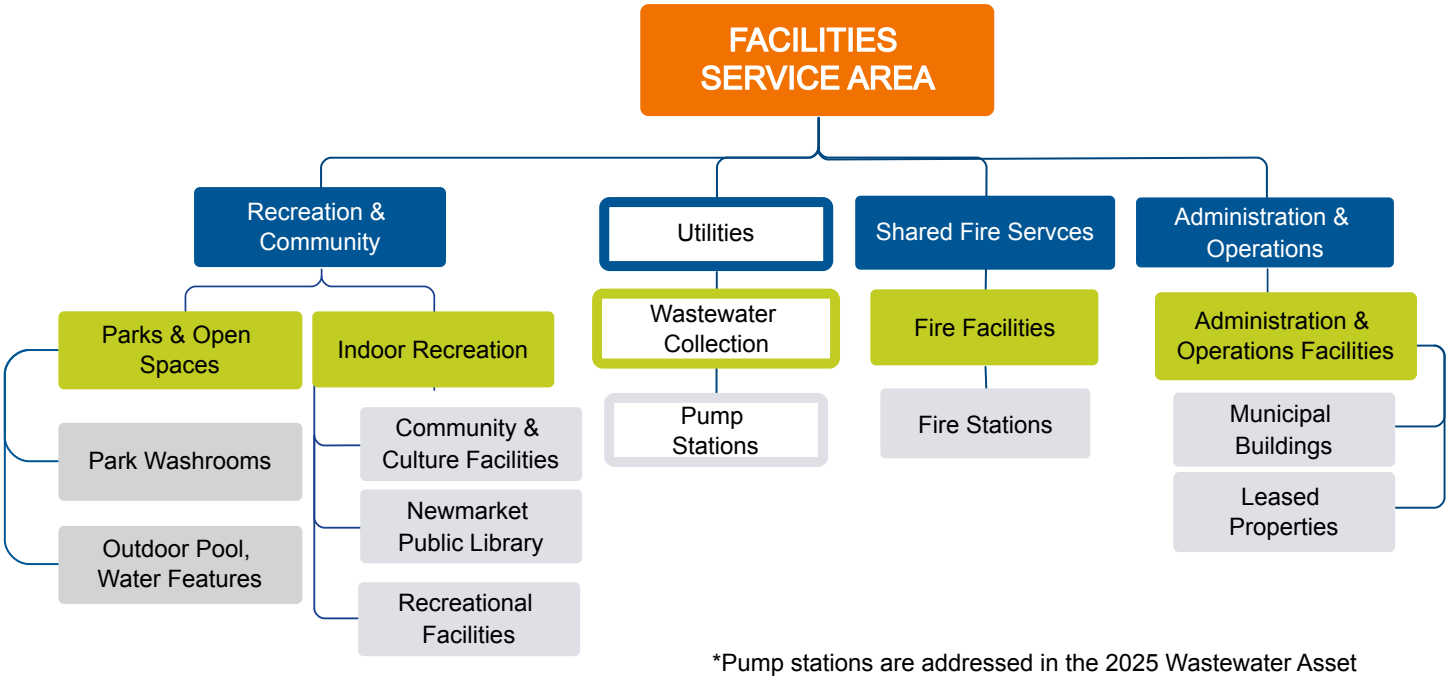
- What do we own?
- What condition is it?
- What would it cost to replace?

Know Your Assets

Know Your Assets is the first section of the asset management plan and sets the foundation for analysis by providing an understanding of what assets the Town owns. It details the characteristics, history, age, condition, and replacement cost of the assets. This information helps inform the current state of infrastructure. The contents of this plan are based on 2023 data.

Context for State of Infrastructure

The State of the Infrastructure will combine inventory quantities, replacement costs, and condition ratings to provide a detailed breakdown of the asset portfolio. The inventory has been organized in a hierarchy to reflect the asset types providing the service, and to support reporting and planning. The Town's inventory for the Facilities service area is organized in Figure 1.



*Pump stations are addressed in the 2025 Wastewater Asset Management Plan and are out of scope for the 2025 Facilities Asset Management Plan.

**Extent of fire services included in the 2025 Facilities Asset Management Plan depends on the ownership structure of the fire hall. All other fire halls fall within the asset management practice for Central York Fire Services (CYFS).

LEGEND

- Asset Class - In Scope
- Asset Class - Out of Scope
- Asset Type - In Scope
- Asset Type - Out of Scope
- Asset Subtype - In Scope
- Asset Subtype - Out of Scope

Figure 1 - Facilities Service Area Classification

Within these Facilities services, the Town manages its assets and asset data using an asset classification system shown in Figure 2. This inventory will be used for replacement valuations, service delivery, operations and maintenance, growth updates, capital planning, and financial reporting.

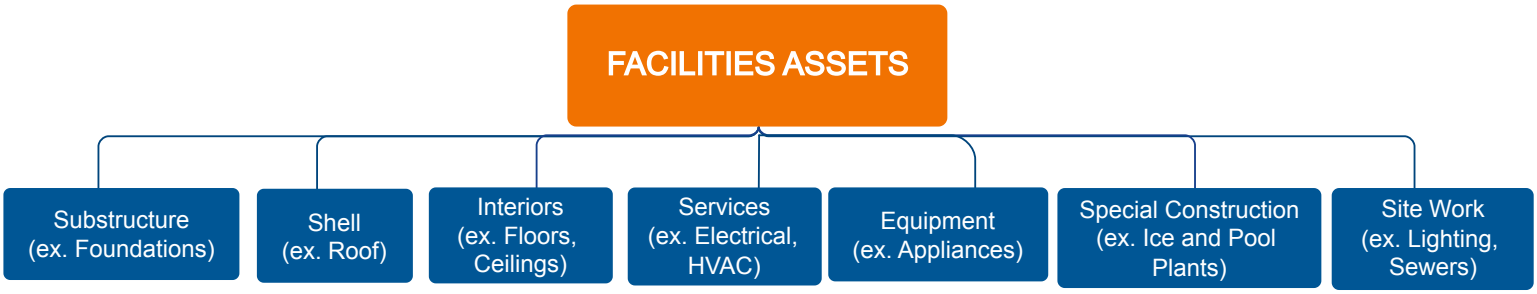


Figure 2 - Facilities Assets Classification

Condition Index

Based on age or visual engineering observations, condition indicates the level of service and likelihood of failure for an asset. Assets are assigned condition ratings on a 5-point scale. Ratings are assigned based on a professional estimate of age, performance, and expected service life during inspections by contracted services for building condition assessments using an industry standard framework. Photos are included to illustrate differences in condition and service quality.

Illustration of Levels of Service through Asset Condition

Condition influences service quality and levels of service are based on condition as forecasted in the Financial Strategy. To illustrate this impact, a collection of images has been collected depicting the differences in condition and levels of service.

Very Good 80-100

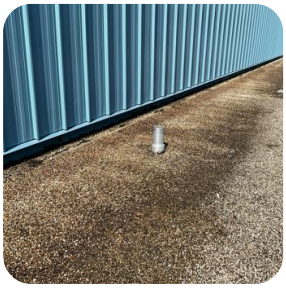
The asset is future-ready. It is in excellent condition, well-maintained, and recently constructed or rehabilitated. It can reliably meet service needs with minimal intervention.


Good 50-80

The asset is performing well. It meets all service expectations and is supported by proactive maintenance to sustain its condition as it progresses through the early-to-mid stages of its expected service life.


Fair 25-50

The asset is functioning adequately with some active maintenance. It shows some visible signs of aging and wear.

Approaching Replacement Need 10-25

The asset is approaching the eventual end of its service life with noticeable signs of moderate deterioration. Some components beginning to require closer monitoring to maintain reliable performance and targeted maintenance is required to maintain service levels.


Ready for Replacement 0-10

The asset has reached the end of its optimal service life and is a candidate for replacement. While functional, it is not delivering services at the optimal level. There are potential increased risks of service disruption. Maintenance efforts are focused on managing risks, minimizing disruptions, and preserving functionality to provide service levels until replacement occurs.


Figure 3 - Asset Condition Photo Illustration

Newmarket

FACILITIES

STATE OF INFRASTRUCTURE

Based on data as of December 31, 2023

INFRASTRUCTURE PURPOSE

Facilities provide opportunities for people to be active, offering diverse and enjoyable ways to stay engaged in the community.

KEY NOTES

Replacement Value: $247 Million

Average condition: Good

Inventory: 36 Buildings

Average Age: 15 years

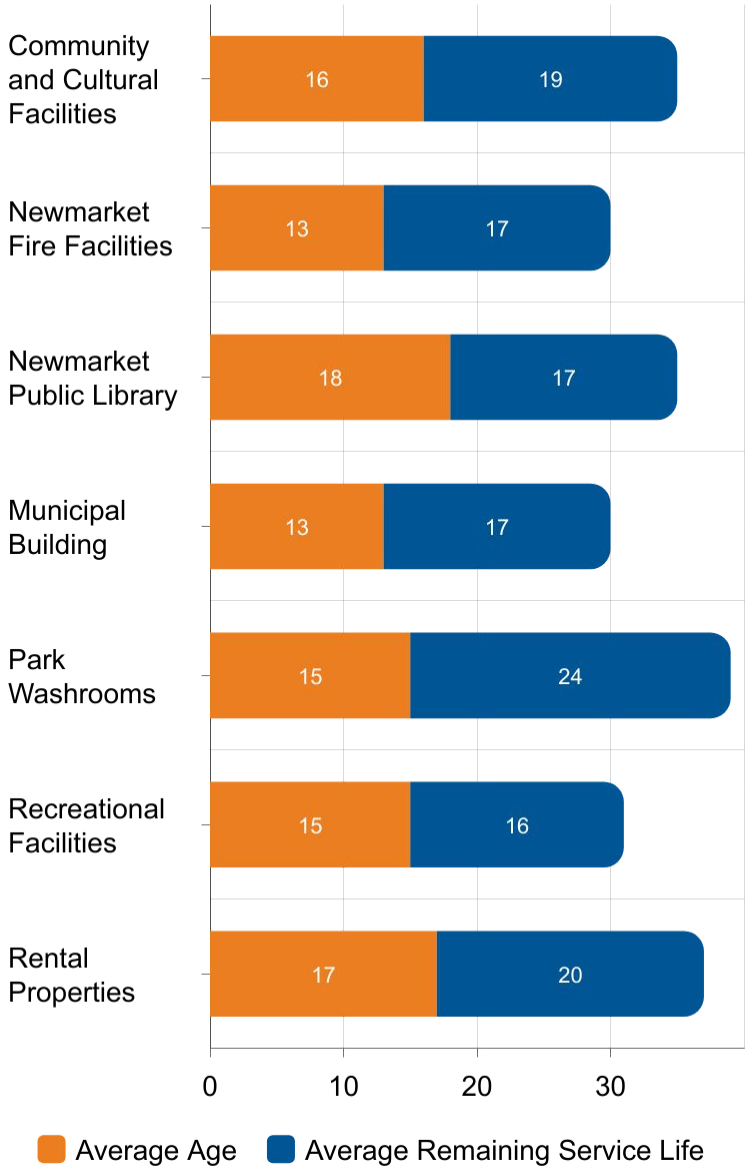
Average Remaining Life: 18 years

INVENTORY

Service & Facility Type	Number of Facilities
Administration and Operations	
Municipal Buildings	4
Rental Properties	9
Recreation & Community	
Community and Cultural Facilities	4
Newmarket Public Library	1
Recreational Facilities	5
Recreational Amenities (Park Washrooms)	11
Shared Fire Services	
Newmarket Fire Facilities	2
Total	36

*Mulock Estate and Fernbank House not included.

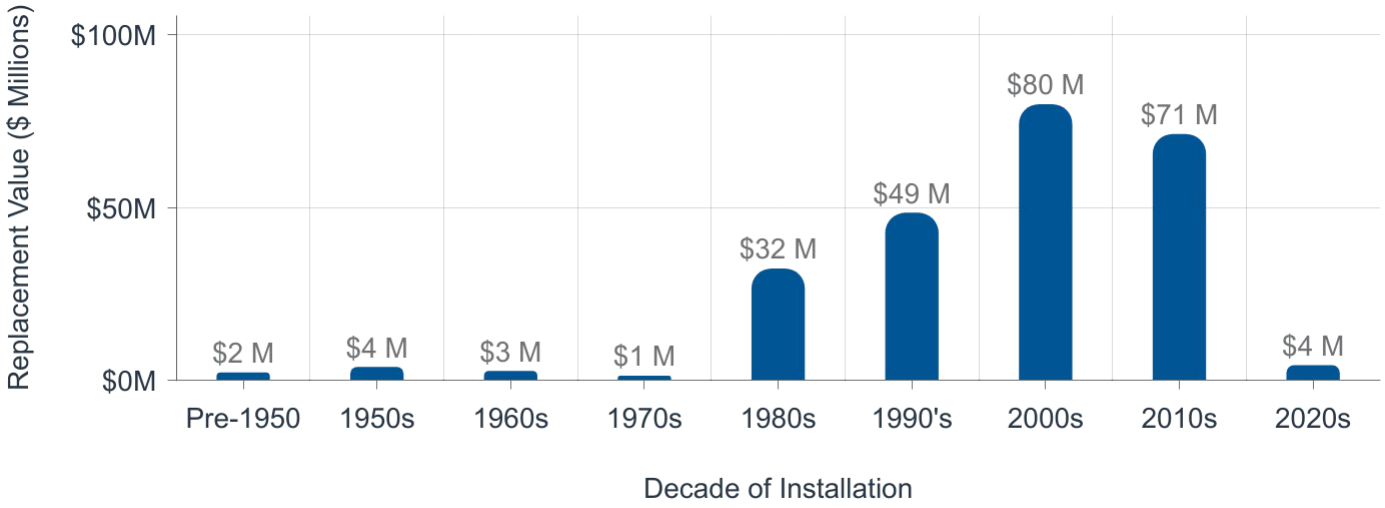
AVERAGE AGE & REMAINING SERVICE LIFE



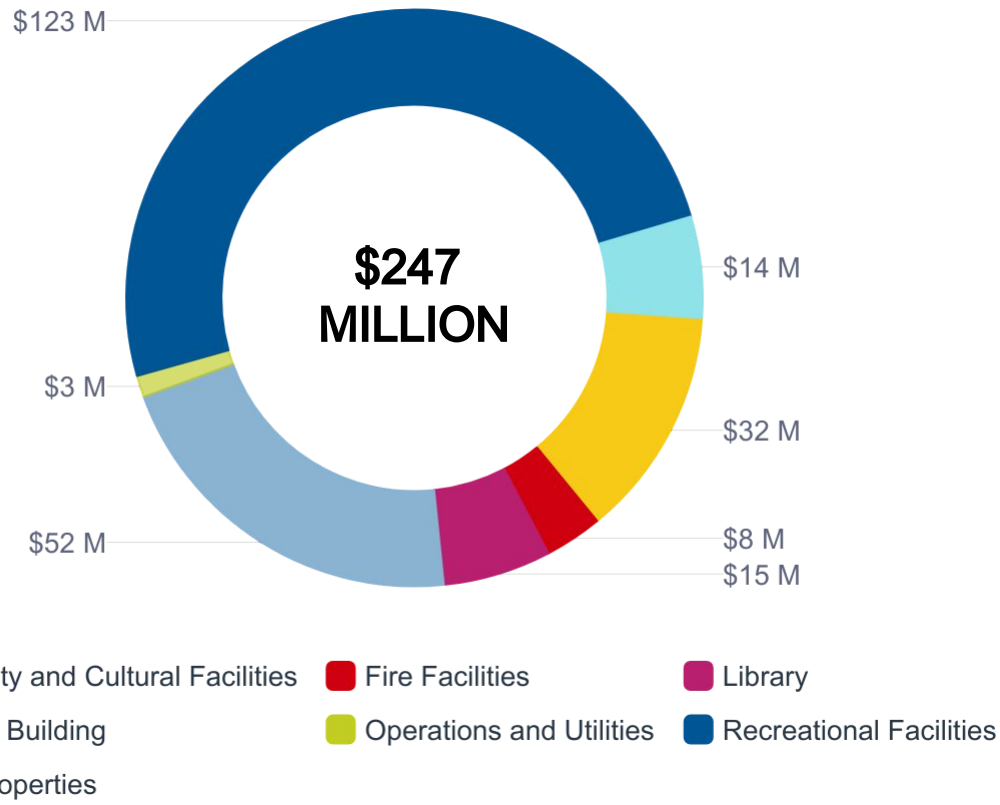
FACILITIES

STATE OF INFRASTRUCTURE

FACILITY ASSET CONSTRUCTION BY DECADE



TOTAL ASSET REPLACEMENT VALUE BY FACILITY CLASS



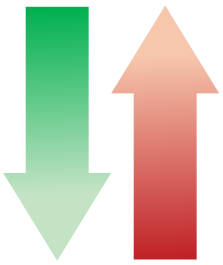
FACILITIES

STATE OF INFRASTRUCTURE

LEGEND

Very Good | Good | Fair | Approaching Replacement Need | Ready for Replacement

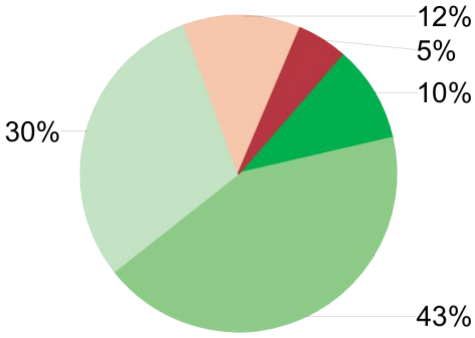
CONDITION CHANGES SINCE 2023



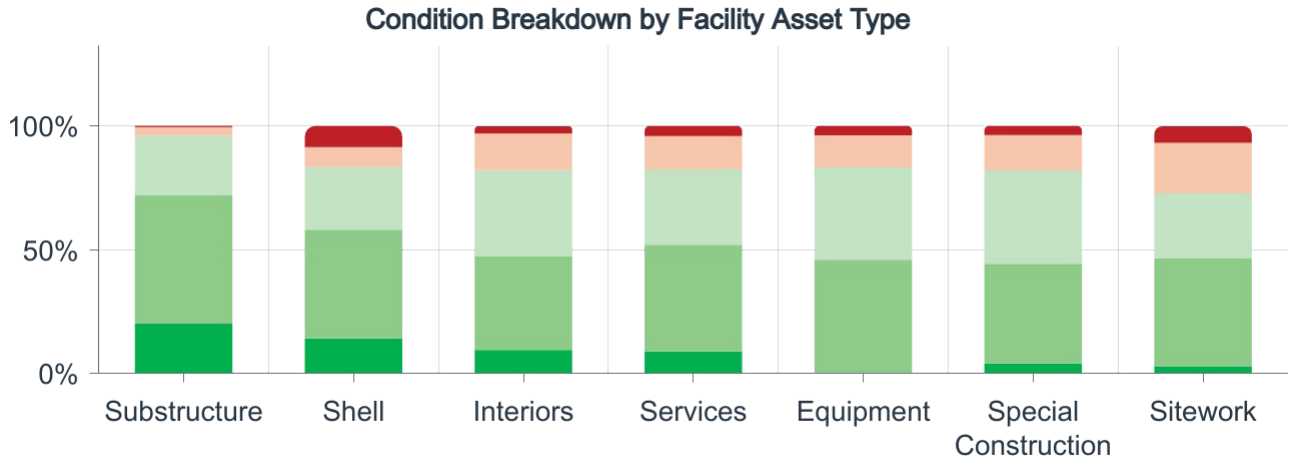
Assets moving in the ranges of very good, good, and fair from **88% to 83%**

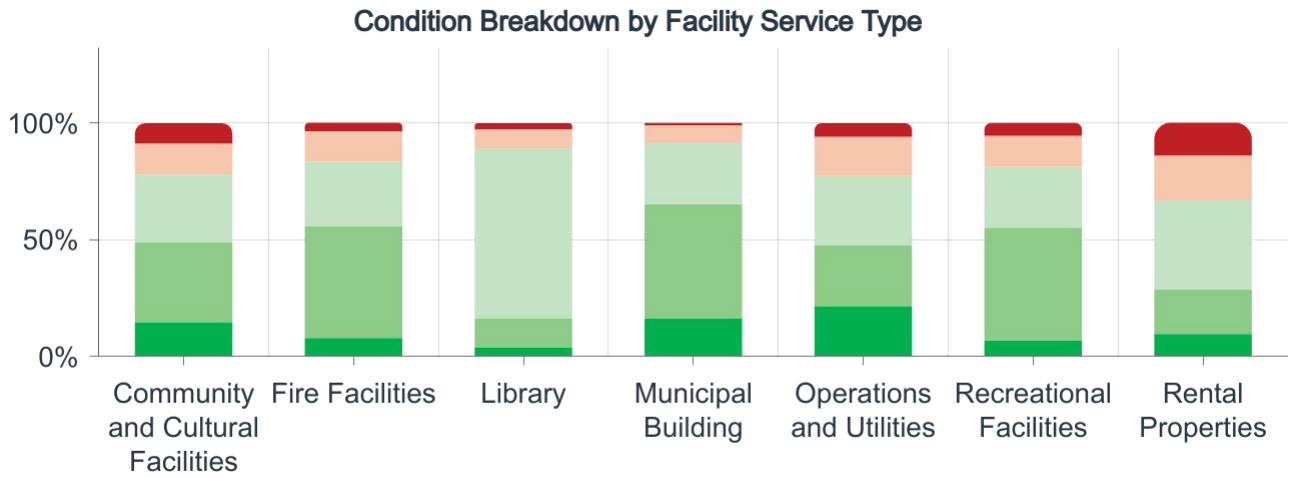
Asset moving in the ranges of approaching replacement need and ready for replacement from **12% to 17%**

CURRENT CONDITION



CONDITION BREAKDOWN





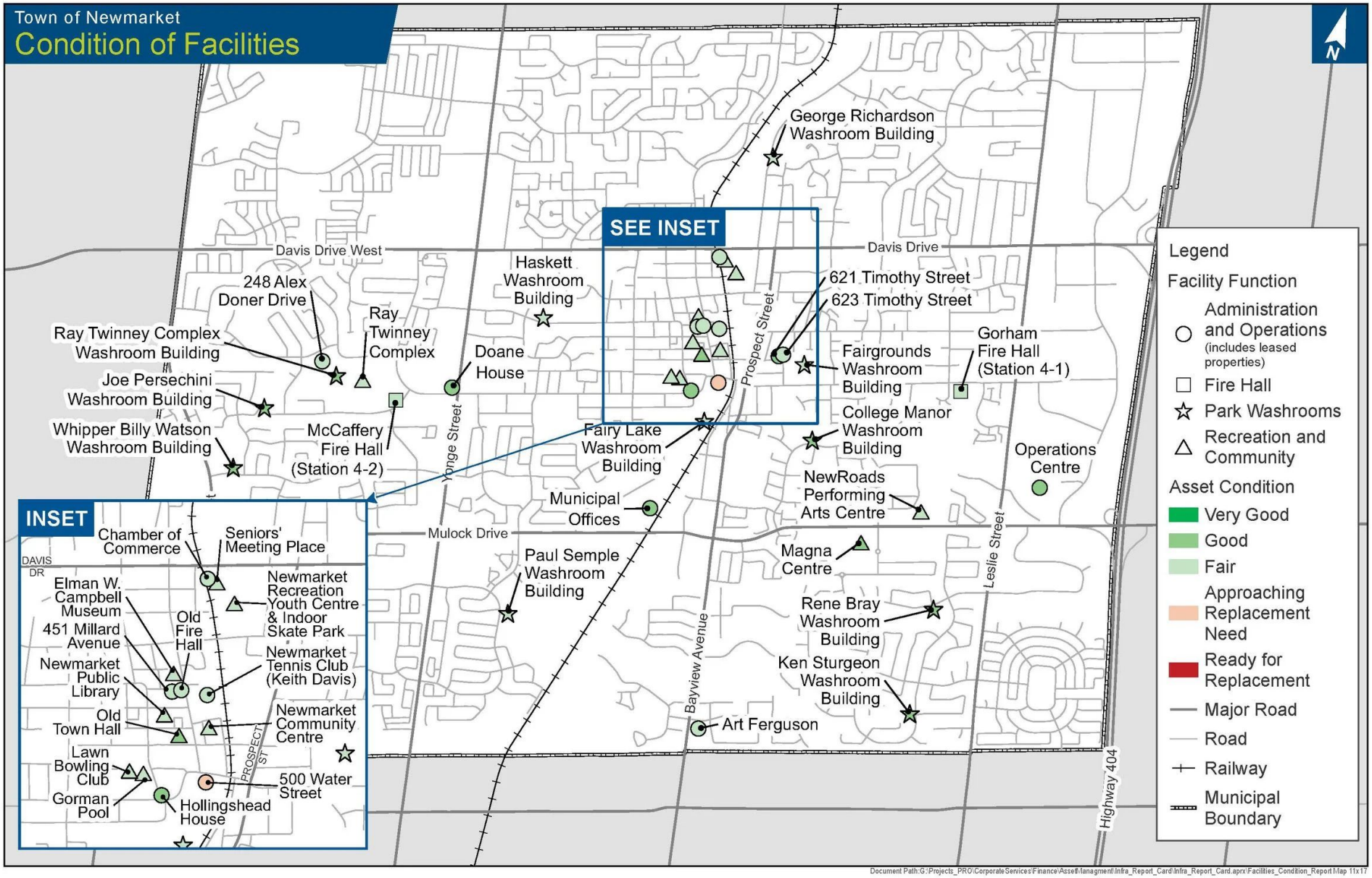
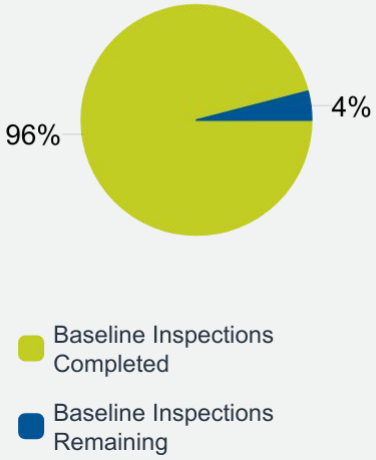


Figure 4 - Asset Scope and Condition Map

Condition Assessment Plan

Condition assessments increase knowledge of the assets, monitor performance, and refine financial projections. The Town currently uses a mix of age based and field condition assessment to determine asset condition.

Progress Towards Baseline Inspection Data



Age-Based Assessment:
Complete

Field-Based Assessment:
96% Complete (2021)
Next Assessment:
2026-2027

Follow Up Condition Monitoring:
Building condition assessments conducted every five years

04 Manage Service Delivery

Asset management is a way of doing business every day. It requires processes to balance the services provided, the risks associated and the cost.

Key takeaways:

- What services do we provide?
- What activities support service delivery?
- What are the risks of our services?

Manage Service Delivery

The Manage Service Delivery section focuses on how asset management balances trade-offs to deliver value. The expenses the Town incurs over the lifecycle of the asset are taken with the goal of ensuring residents and business continue to receive exceptional service from the Town.

Measuring Levels of Service

Levels of Service (LoS) are measured by the service outcomes, asset performance, and supporting activities. They act as guiding benchmarks that inform operations, influence decision-making, and support the effective functioning and safety of assets and service delivery.

Customer Levels of Service

This is the level of service statement the Town commits to providing the customers.

Technical Measure

This is the technical and quantifiable measure of the customer level of service statement. This includes levels of service required by the Province for public reporting under Ontario Regulation 588/17.

These measures provide a framework for monitoring performance, identifying areas for improvement, and ensuring that operational activities align with overall safety and functional requirements.

Levels of Service Alignment

The LoS measures are organized to create alignment between Town strategic objectives, a corporate goal for the service and the subsequent service criteria and technical/customer measures. The benefit of this approach is ensuring the broader goal and outcomes of a service can be monitored and addressed through specific measures and actions. The result of this process is shown on the following page.

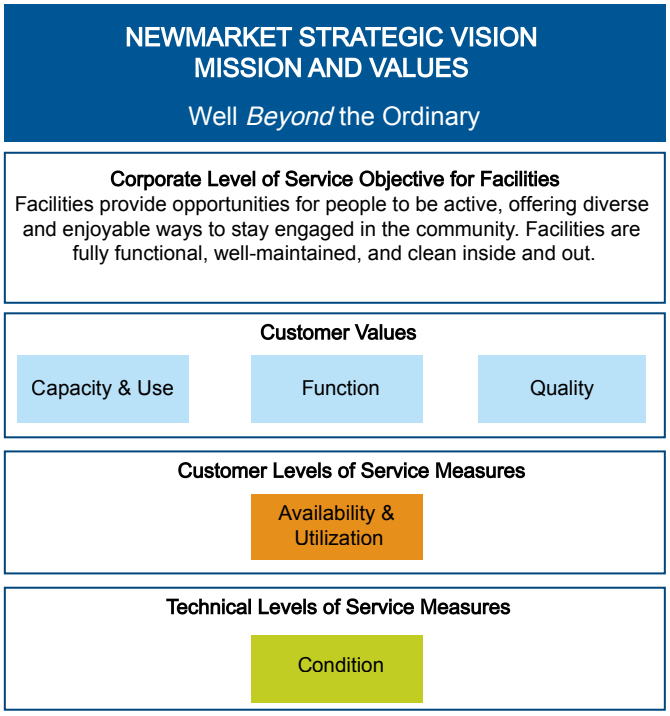


Figure 5 - Levels of Service Alignment

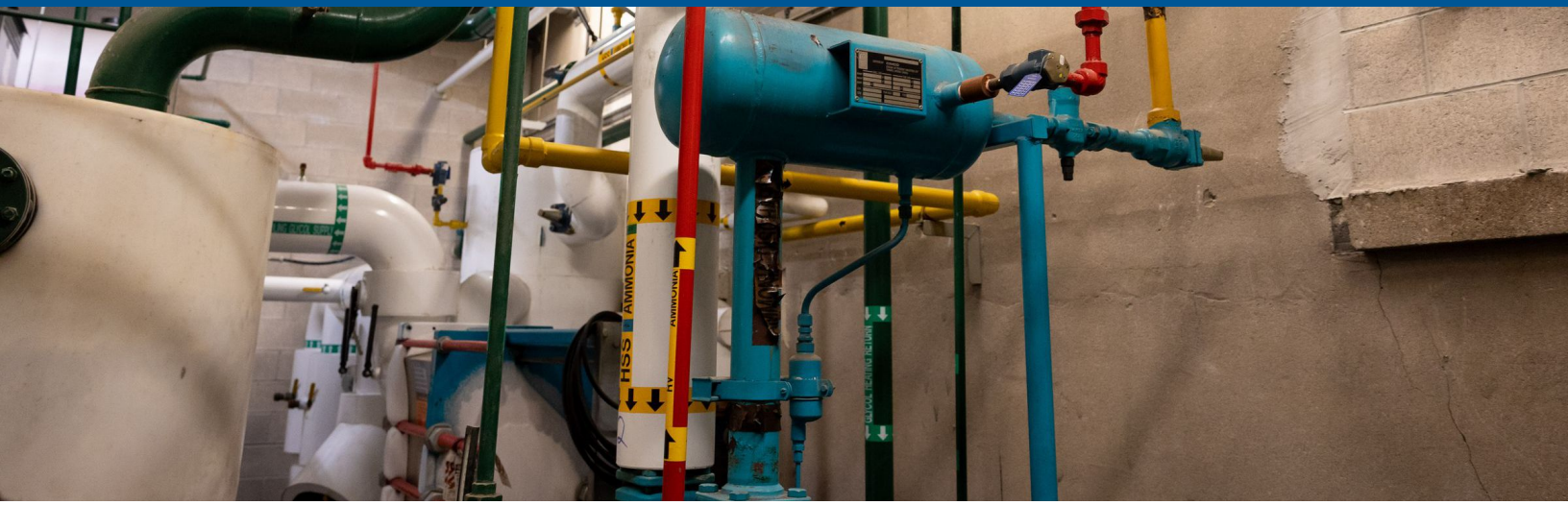
Performance and Results

Levels of service results are presented below using the metrics developed for the Facilities Asset Management Plan.

Customer LOS Statement	Technical LOS Measure	2023 Performance	Proposed 2034 Performance
A wide range of programs are offered.	Total Number of Drop-In Program Participants	311,738	Not applicable
	Total Number of Registered Program Participants	26,222	Not applicable
Facilities are well utilized and serve the community.	Utilization of Ice Pads as a Percentage of Prime Time Hours	88%	Not applicable
	Booking of Available Multi-Use Spaces as a Percentage of Available Hours*	62%	Not applicable
Facilities are functional and well maintained.	**Percentage of Facilities Service Areas not due for Replacement**		
	Recreation, Community and Cultural Facility Assets	94%	80%
	Administration, Operations, and Leased Facility Assets	96%	80%
	Fire Facility Assets (Town-owned only)	96%	84%
	Percentage of all existing assets not due for replacement	**95%**	**80%**

Table 1 - Current and Proposed Performance and Results

The Town is not proposing any operational service levels changes at this time as current service levels are appropriate as experienced by the community. Any changes in numbers shown in the proposed performance table are due to aging assets (which lowers condition) or asset rehabilitation (which improves condition). Any potential future adjustments will be assessed based on operational needs, stakeholder feedback, and emerging industry best practices. Performance changes will be documented in future annual update plans.



Legislative Requirements

The Town currently operates within several regulatory requirements. As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

CURRENT LEGISLATIVE REQUIREMENTS

The Town currently operates within several regulatory requirements. Regulations include:

- Fire Code – Ontario Regulation 213/07
- Electrical Code – Ontario Regulation 164/99
- Elevating Devices – Ontario Regulation 209/01
- Conservation Demand Management Plan and Energy Reporting – Ontario Regulation 507/18
- Ministry of Environment, Conservation and Parks – Noise
- Ministry of Environment, Conservation and Parks – Air Quality
- Commercial Tenancies Act
- Safety Code for Elevators and Escalators – CSA B44-2016
- Accessibility for Ontarians with Disabilities Act (AODA)
- National Fire Protection Association (NFPA)
- Technical Standards and Safety Authority (TSSA)
- American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE)
- Air-Conditioning, Heating and Refrigeration Institute (AHRI)
- Public Health – Pools & Spas
- Public Health – Air Quality
- Public Health – Lighting Levels

As the regulatory environment changes, the minimum Level of Service the Town provides may also change.

NEW UPCOMING LEGISLATIVE REQUIREMENTS

The review of legislative requirements during the development of this plan found no major upcoming legislative requirements that would impact minimum levels of service requirements for the operations and maintenance of Facilities assets.

Lifecycle Activities

This table outlines business practices employed by the Town to manage assets and services throughout their lifecycle.

Lifecycle Phase	Lifecycle Activity	A wide range of programs are offered.	Facilities are well utilized and serve the community.	Facilities are functional and well maintained.
Acquire and Commission	Visioning, Planning, Design, Construction, and Commissioning	✓		
Operations, Maintenance, and Inspections	Elevators & Conveying Systems Operations & Maintenance			✓
	Plumbing Operations & Maintenance			✓
	HVAC Operations & Maintenance			✓
	Fire Protection Inspection, Operations, Maintenance, & Alarm Response			✓
	Electrical Maintenance			✓
	Safety and Security Systems Operations, Maintenance, & Alarm Response			✓
	Maintain Interior & Exterior Features			✓
	Pest Control			✓
	Winter Maintenance			✓
	Janitorial Services			✓
	Arena Winter Operations & Ice Equipment Maintenance	✓	✓	✓
	Arena Summer Operations	✓	✓	✓
	Pool Operations & Equipment Maintenance	✓	✓	✓
	Splash Pad Operations & Maintenance	✓	✓	✓
	Programmable Space Operations	✓	✓	✓
	Special Event Operations	✓	✓	✓
	Building Condition Assessments			✓
Renewal and Rehabilitation	Foundation Repairs			✓
	Roofing			✓
	Water Proofing			✓
	Exterior Wall Repairs			✓
	Interior Construction & Finishes			✓
Replacement	Capital Project Design, Construction, & Project Management		✓	✓

Table 2 - Lifecycle Activities

Risk

Risk can be assessed at multiple levels. This plan will evaluate risk from two key perspectives: service-level risk, which pertains to potential impacts that may disrupt the delivery of services to the public and community, and asset-level risk, which focuses on the exposure of the assets themselves.

The chart below illustrates asset risk. The risk assessment was conducted on a risk assessment matrix based on likelihood of failure and the consequence of failure.

FACILITIES RISK PROFILE

Likelihood of Failure

- Age & Expected Service Life
- Reports & observations by operational staff.
- Condition as observed by contracted facility condition assessors.

Consequences of Failure

- Health & Safety
- Impacts to Building Systems
- Interruptions to programming and operations
- Aesthetic impacts
- Nuisance impacts

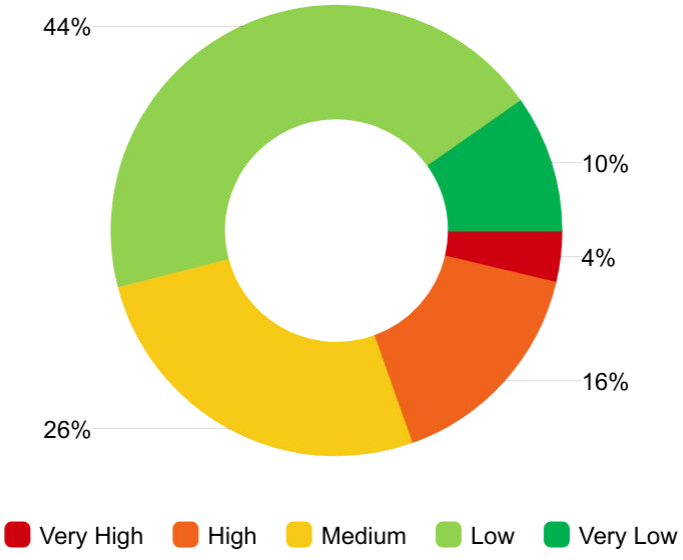


Figure 6 - Asset Risk Profile

05 Future Ready

What was once a small but thriving Town, today Newmarket is a desirable and affordable community. While the future is bright, trends like increasing service expectations, urbanization, and climate change are challenging the status quo. The future will change how the Town manages assets.

Key takeaways:

- What increases in asset-related services are expected?
- How will climate change impact assets?

Future Ready

Ongoing and future trends will impact the way the Town delivers its services and manages its assets. Proactively identifying these trends and pressures allows the Town to account for risk and take advantage of opportunities. Using planning to maintain a future outlook allows for a balance between maintaining present services while managing growth.

The Future Ready section will discuss the following:

Growth

An outlook of forecasted growth in the asset portfolio.

Climate Change

Vulnerabilities and adaption and mitigation approaches to climate change, specifically flooding. Results of a flood risk assessment are provided as flooding is the first of several types of climate considerations to be applied in the future.

Growth Planning in Newmarket & Population

The Town of Newmarket is expected to grow from its current population of approximately 90,700 residents to a future population of 118,500 by 2051 according to provincial and regional plans. At the same time, the employment base is projected to grow from 45,000 to 58,100 jobs.

		2021	2031	2041	2051
Newmarket	Population	90,700	98,900	107,200	118,500
	Employment	47,500	50,600	53,900	58,100

Table 3 - Newmarket Growth in Population and Employment

To support this population, more assets and new types of assets may be required to provide asset-related services and to maintain service levels. The asset management plans reflect planning efforts to coordinate assets and population growth in alignment with the 2019-2028 Development Charges Background Study.

Identified Growth

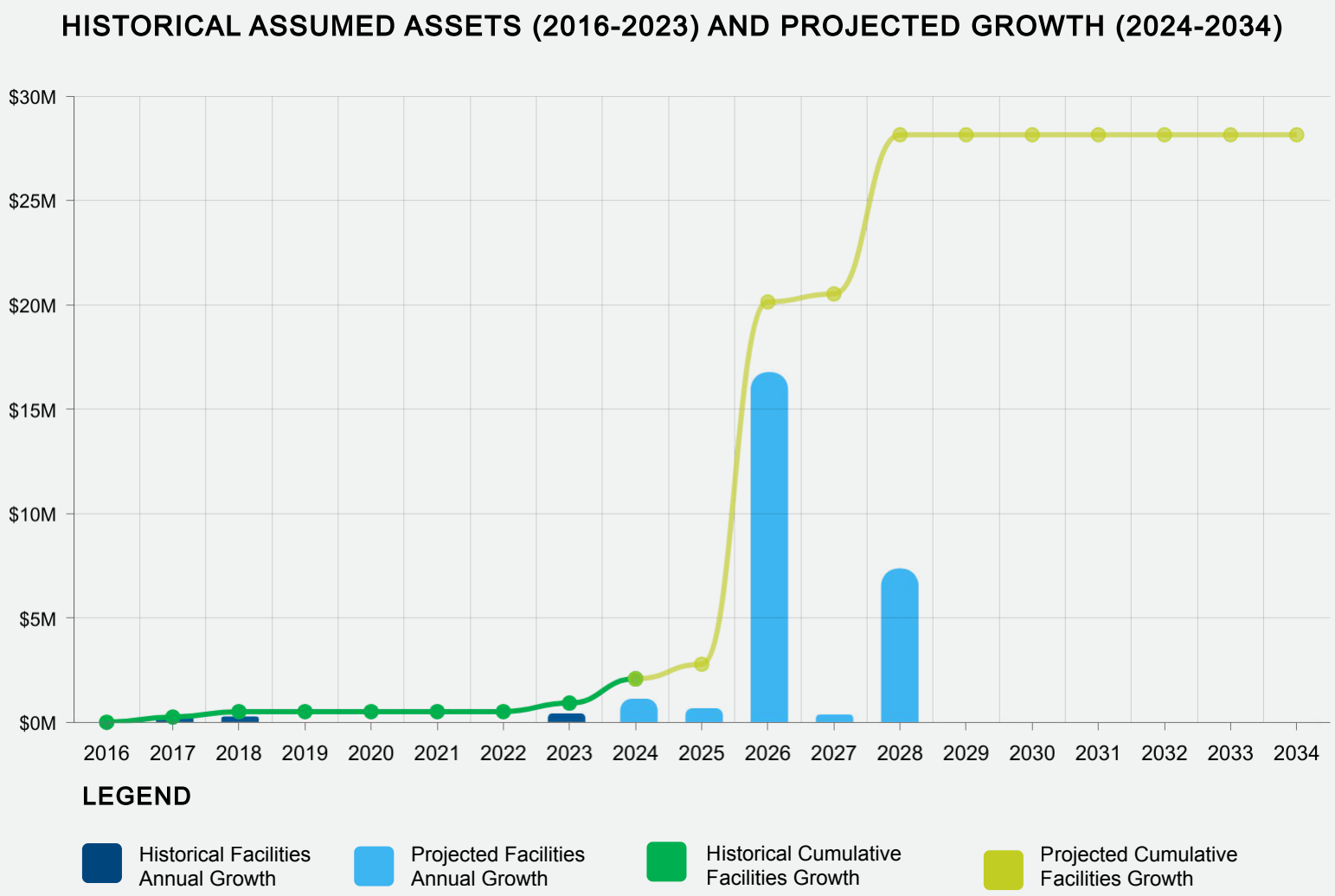


Figure 7 - Historical Assumption and Projected Growth

The following table summarizes asset increases in the asset portfolio. Information on growth values and impacts will be discussed in the Financial Context section.

Years	Growth / New Assets
2024	$1,162,058
2025	$696,716
2026	$17,356,248
2027	$386,506
2028	$7,623,506
2029	-
2030	-
2031	-
2032	-
2033	-
2034	-
TOTAL	$27,225,033

Table 4 - Asset Growth Forecast

Climate Change Assessment

To prepare for climate change impacts, the Town engaged with the Ontario Climate Consortium (OCC) to conduct a corporate-wide flood risk resilience assessment of Town-owned infrastructure. The study used an indicator-based tool to evaluate flood risk based on:

1. **Hazard** – Geospatial factors influencing riverine, overland, and groundwater flooding.
2. **Vulnerability** – Operational, social, economic, and environmental factors affecting an asset's susceptibility to flooding.

FACILITIES FLOOD RISK ASSESSMENT

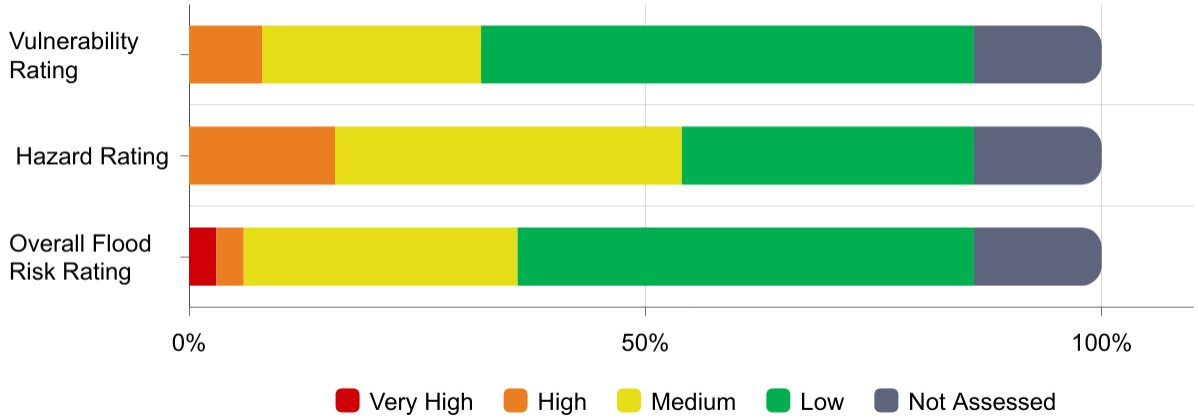


Figure 8 - Flood Risk Assessment Results

06 Financial Context

The Financial Context section brings together the data and analysis from previous sections to provide a clear view of the Town's financial situation regarding its assets. It reviews historical and current practices and future outlook based on anticipated growth. Three scenarios are introduced here to explore different levels of service based on asset condition and funding levels.

Key takeaways:

- What are the Town's current financial practices for asset management?
- What operating budget supports our assets?
- What is the long-term financial impact of growth, based on the total lifecycle of the assets?

Financial Strategy

The sustainability of Town infrastructure depends on effective management and ensuring the optimal use of available funds. The Town of Newmarket has developed a Financial Strategy to evaluate the relationship between current investment levels, service outcomes and risk of service failures. The financing strategy strengthens the budget process by reinforcing a long-term perspective of service levels. The Town modelled and prepared an analysis of three scenarios over a 10-year time horizon to determine the Proposed Levels of Service.

Capital Financial Strategy

The history of the Town's financial contributions and capital spending practices were used to inform the financial analysis conducted. This historical context provides valuable insights into the Town's fiscal health, helping to inform future financial planning and decision-making processes.

Year	Facilities Reserve Contribution	Reserve Contribution as a Percentage of 2023 Replacement Value
2018	$2,644,800	1.07%
2019	$1,118,081	0.45%
2020	$1,118,081	0.45%
2021	$1,153,493	0.47%
2022	N/A - Facilities Reserve Rebalancing	
2023	$1,155,313	0.47%

Table 5 - Historical Reserve Contributions

Year	Facilities Capital Spending on Existing Assets	Capital Spending as a Percentage of 2023 Replacement Value
2018	$1,785,403	0.72%
2019	$2,338,832	0.95%
2020	$735,236	0.30%
2021	$889,199	0.36%
2022	$2,321,989	0.94%
2023	$3,226,386	1.31%

Table 6 - Historical Capital Spending

Estimated Future Reserve Contributions

The Town's reserve contributions are geared towards long-term financial planning and to balance funding with future renewal costs. These projections will be reviewed each year through internal processes and Council-approved budgets. The Town has proposed a 1.5% annual tax increase, subject to the annual budget process, to help fund future capital asset replacements. It is assumed to continue for the next 10 years for all tax-supported assets. Funding increases for service areas would be proportional, with additional factors from the Reserve & Reserve Fund Review taken into account. The forecasted reserve contributions are based on the current population, tax collection rates, and expected population growth, along with the economic activity outlined in the Future Ready section.

Year	Estimated Future Reserve Contributions
2025	$5,289,140
2026	$5,613,555
2027	$5,947,775
2028	$6,286,895
2029	$6,630,987
2030	$6,980,120
2031	$7,346,843
2032	$7,719,067
2033	$8,096,874
2034	$8,480,347

Table 7 - Estimated Future Reserve Contributions

Facilities Scenario Methodology

To forecast capital investment need, consolidation of inventory, replacement cost, condition, levels of service, risk, and lifecycle activities as shown throughout the AMP was completed.

Three scenarios were created to answer key questions about current budget, future requirements, sustainability and proposed levels of service. Analysis is carried out in Decision Optimization Tool, the Town's risk-based investment planning software. The scope of the analysis is the capital cost of replacing existing assets. During the annual budget process, these estimates are reviewed and refined with additional cost drivers for staff delivery capacity, operational impacts, and detailed designs.

Scenario	Description of Scenario Constraints and Objectives
1 – Current Budget	The purpose of the current budget scenario is to calculate the level of service achievable with current funding. Scenario parameters are: • Maximize network performance for limited funds. • Based on current funding as of 2025.
2 – Needs Based	The purpose of the needs-based scenario is to calculate the true cost of maintaining the full asset inventory at current service levels for comparison with current practice. Scenario parameters are: • Limit the number of very poor assets to 5%. • Minimize the cost of maintaining asset portfolio but no budget constraint. • Maintain current levels of services.
3 – Proposed Levels of Service	Proposed Levels of Service documents the Town's financial strategy to increase the capital funding of asset replacements in recognition of the prevailing trends of aging assets. This is achieved through alignment with the Town's Fiscal Strategy and the Reserve Fund Review, which identifies a path to achieving sustainable asset funding levels through a long-term strategy. This strategy will be further reviewed in the Proposed Level of Service section. Scenario parameters are: • Maximize network performance for limited funds. • Employ risk-based prioritizations within the investment planning software to minimize risk. • Increase asset replacement funding from 2025 levels using the strategies identified in the Reserve Fund Review. Proposed Levels of Service are the basis for the 2025 Asset Management Plans.

Table 8 - Scenario Methodology

Facilities Scenario Results

The figures on the following pages illustrate how the cost of renewals for different service targets and the condition of facilities are forecasted to change over time under all three scenarios.

SCENARIO 1 | CURRENT BUDGET

- Calculate the level of service achievable with current funding.
- Maximize network performance for limited funds.
- Based on current funding as of 2025.

CONDITION FORECAST

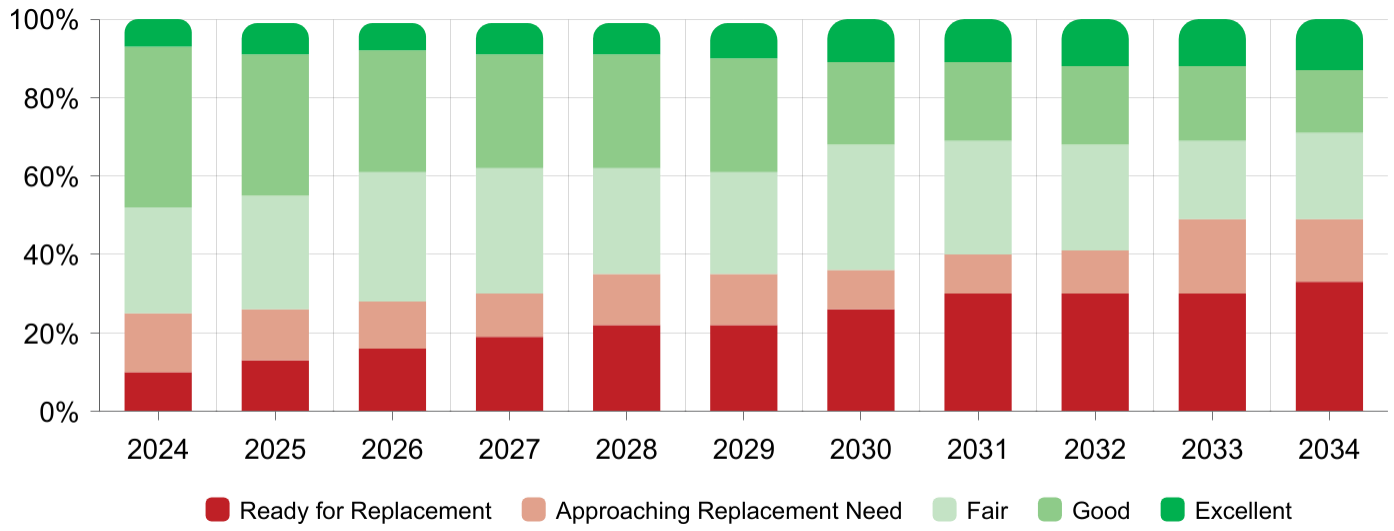


Figure 9 - Forecasted Condition over 10 Years - Current Budget

CAPITAL EXPENDITURE

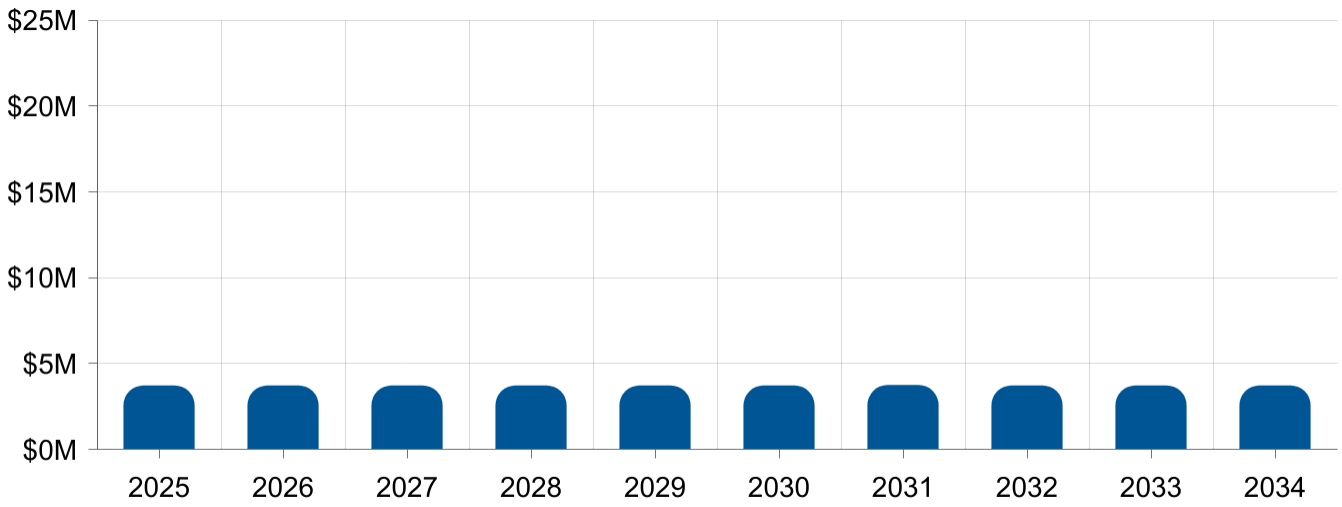


Figure 10- Forecasted Capital Expenditure over 10 Years - Current Budget

SCENARIO 2 | NEEDS BASED

- Calculate the true cost of maintaining the full asset inventory
- Limit the number of Ready for Replacement assets to 5%
- Minimize the cost of maintaining asset portfolio, but no budget constraint

CONDITION FORECAST

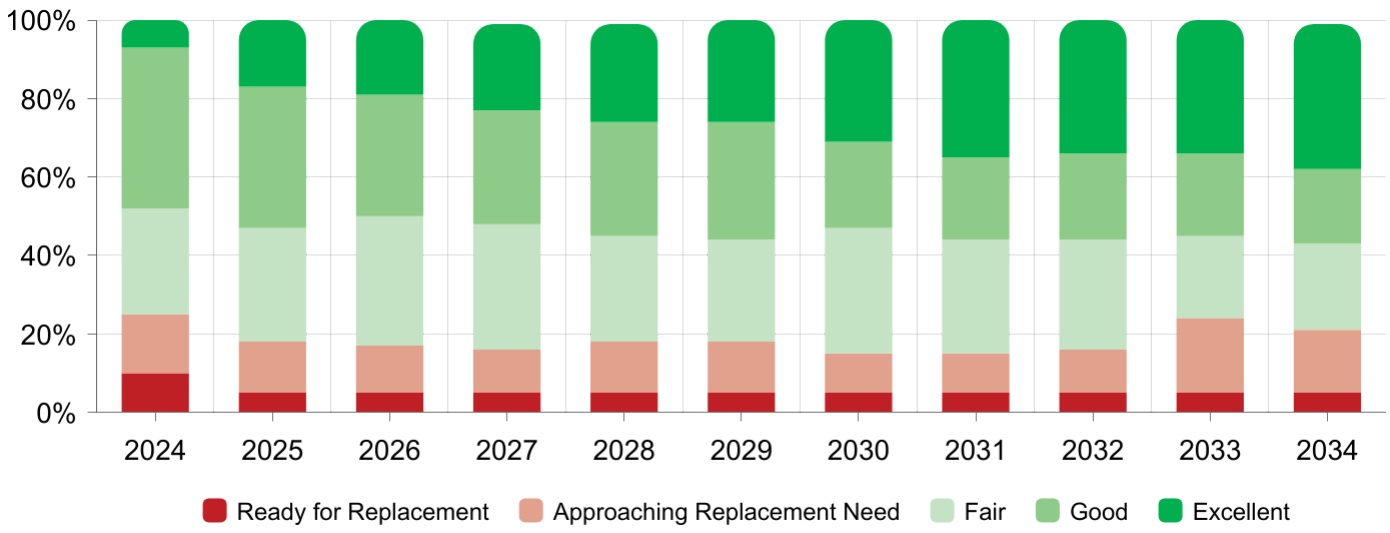


Figure 11 - Forecasted Condition over 10 Years - Needs Based Budget

CAPITAL EXPENDITURE

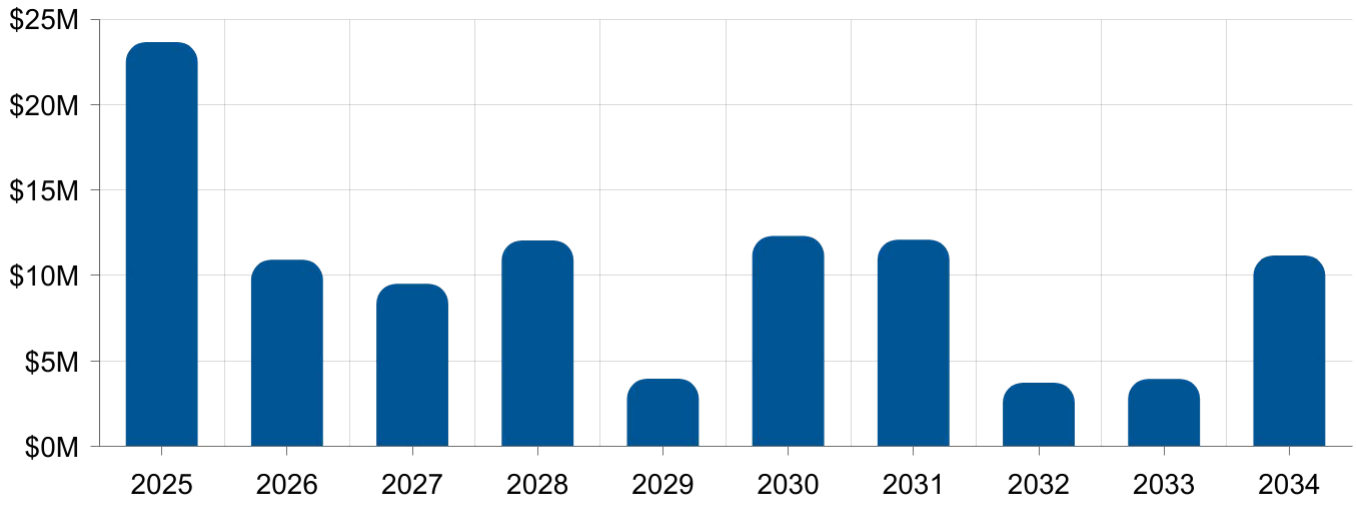


Figure 12 - Forecasted Capital Expenditure over 10 Years - Needs Based Budget

SCENARIO 3 | PROPOSED LOS

- Maximize network performance for limited funds.
- Employ risk-based prioritizations to minimize risk.
- Increase asset replacement funding as identified in the Reserve Fund Review.

CONDITION FORECAST

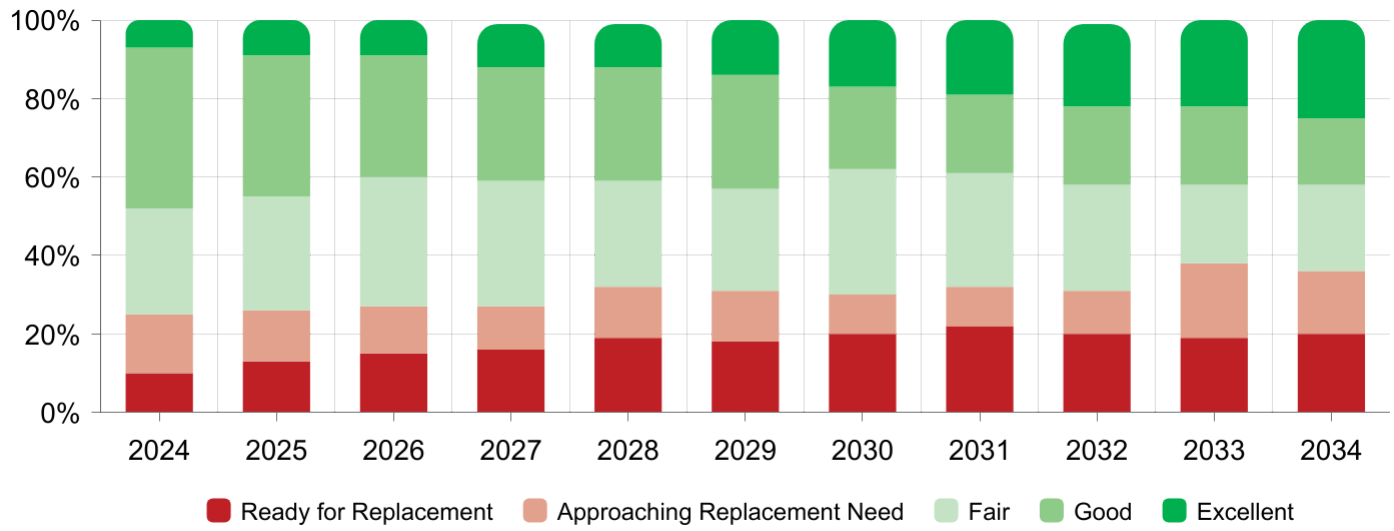


Figure 13- Forecasted Condition over 10 Years - Proposed LOS Budget

CAPITAL EXPENDITURE

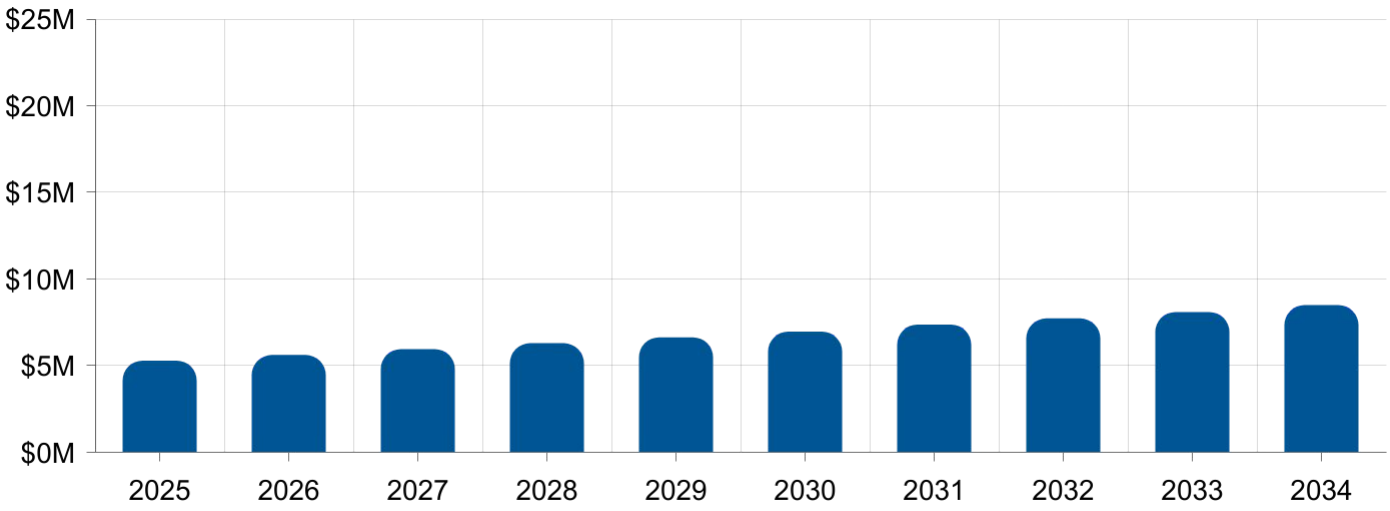


Figure 14 - Forecasted Capital Expenditure over 10 Years - Proposed LOS Budget

Operations & Maintenance

Using the Town's framework for lifecycle activities, the Town's operations and maintenance budget reflects the cost of delivering asset-related services for the activities occurring after acquisition and outside of rehabilitation, replacement, and decommissioning. These are listed in Manage Service Delivery.

The Town is not proposing levels of service changes to its operational lifecycle delivery, as identified in the performance results shown in Levels of Service section and discussed further in Proposed Levels of Service.

$8.67M
Annual O&M cost for Facilities assets

Financial Impacts of Growth

When a new asset is commissioned, it begins a lifecycle of service and costs. The total value of growth in assets by replacement value identified in Future Ready is as follows. This asset management value may vary from other estimates which consider local factors, developer agreements, or staff resources needed to support growth. This figure includes preliminary estimates that could change with project definitions, data improvements, and construction price inflation.

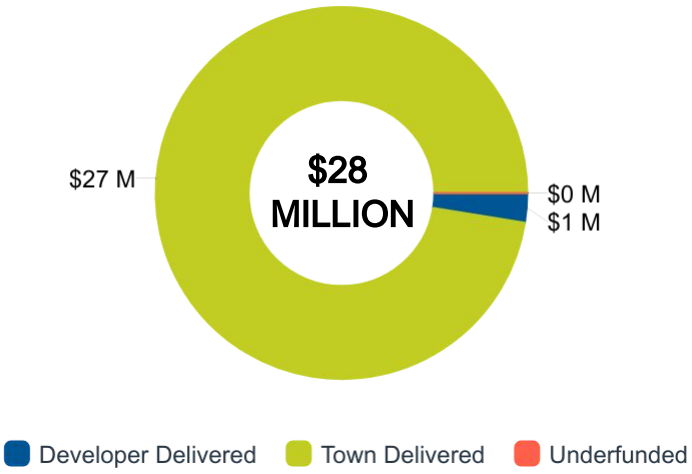


Figure 15 - Total Value of Growth by Funding Source

While providing services, new assets also requires operations, maintenance, and eventual replacement. Acquiring an asset means anticipating future costs, which is essential for financial planning and understanding the total cost of ownership. To reflect this, the Financial Impact of Growth depicts two types of cost: annual O&M cost and reserve fund contribution.These estimates will be refined as projects are scoped and designed.

Annual Operating Impact

The annual operating impact reflects the cost of maintaining assets at current service levels, including inspections, cleaning, and energy use. These costs are estimated by scaling current service levels to match growth and are measured in operating dollars per year. Using the asset quantities forecasted in Future Ready, the increases in operations and maintenance costs to maintain current service levels over the next 10 years is expected to be as shown below. This forecast will be reviewed and refined through the annual budget process as projects are scoped and operational needs are confirmed.

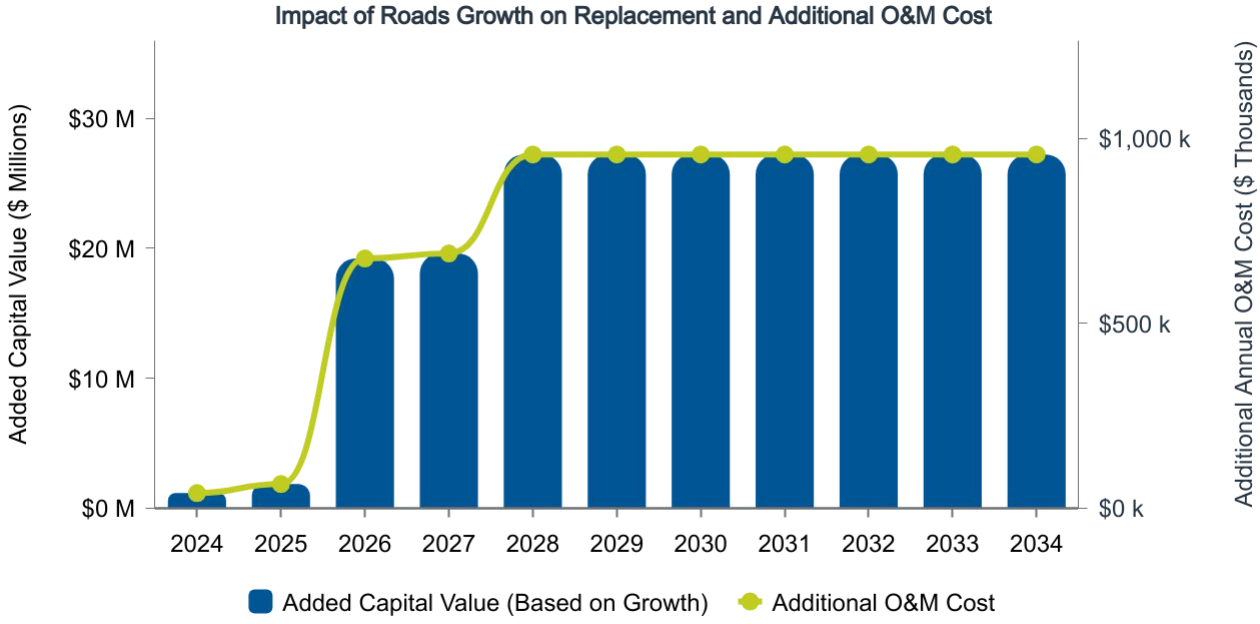


Figure 16 - Impact of Growth on Replacement Cost and Additional Annual O&M Cost

Financial Impacts of Growth - Continued

Reserve Fund Contribution for Sustainable Replacements

Annual reserve contributions ensure funds are available to replace assets at the end of their useful life by spreading costs evenly over time. This prevents a backlog of future replacements and supports asset sustainability. The contribution is calculated by dividing total replacement costs by average asset lifespan. It excludes other capital costs like upgrades, or staff resources to supported added capital delivery. It assumes based on the Town's Reserve Fund Review that the Town can achieve this ratio of funding for all of its assets over time. The graph below shows the increased annual contributions required to sustain future capital replacements.

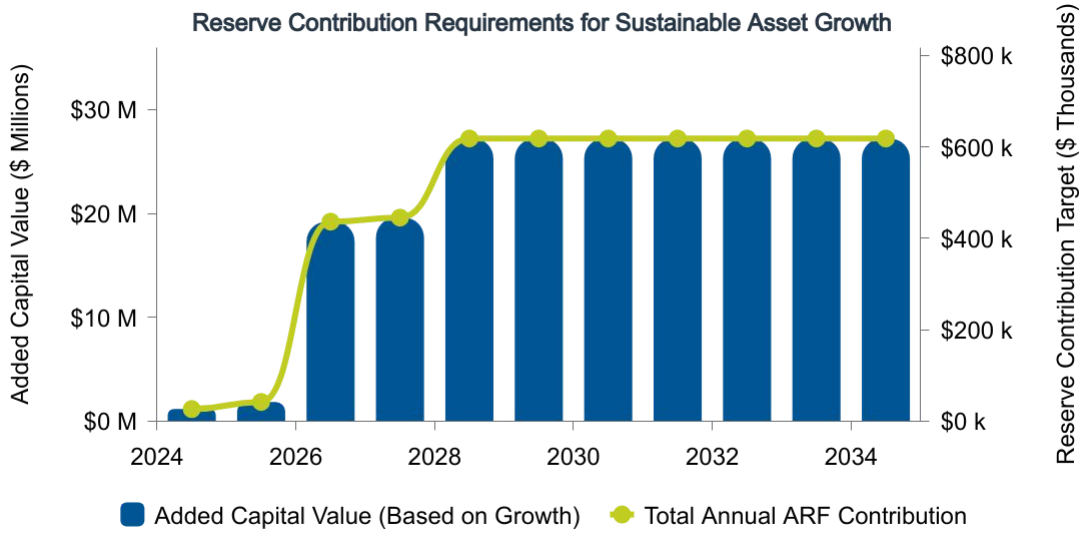


Figure 17 - Reserve Contribution Requirements for Sustainable Asset Growth

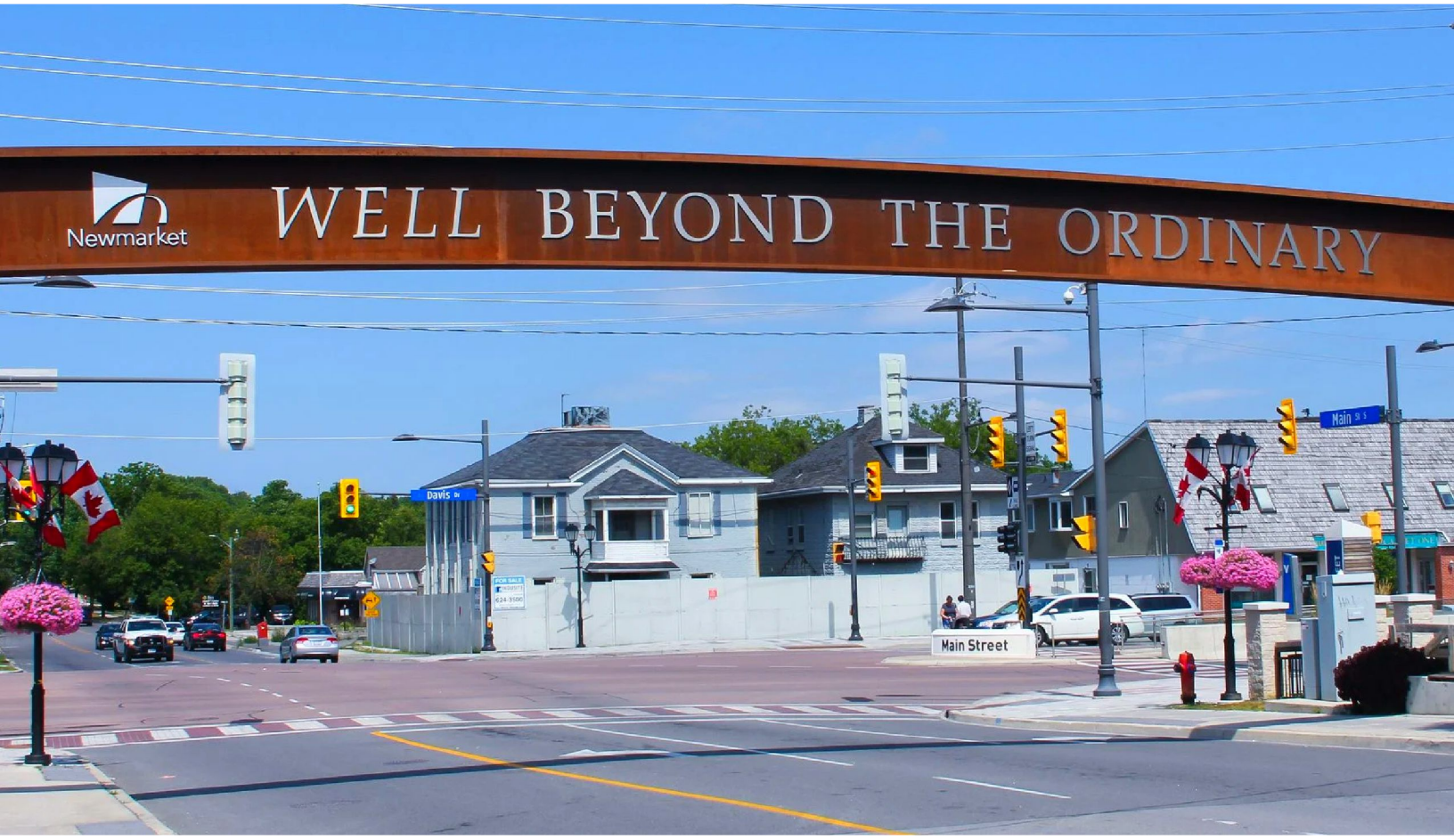
Total Cost of Growth

Accounting for both operational and maintenance costs and reserve contribution requirements, the total estimated annual cost of growth is summarized in the table below. The funding of the growth impacts is discussed further in Proposed Levels of Service.

Financial Impact by Year	Growth in Assets (Replacement Value)	Annual Total O&M Costs	Annual Reserve Contribution Target	Total Annual Financial Impact of Growth (Cumulative)
2024	$1,162,058	$40,834	$26,410	$67,245
2025	$696,716	$24,482	$15,834	$107,562
2026	$17,356,248	$609,895	$394,460	$1,111,917
2027	$386,506	$13,582	$8,784	$1,134,283
2028	$7,623,506	$267,888	$173,261	$1,575,433
2029	$0	$0	$0	$1,575,433
2030	$0	$0	$0	$1,575,433
2031	$0	$0	$0	$1,575,433
2032	$0	$0	$0	$1,575,433
2033	$0	$0	$0	$1,575,433
2034	$0	$0	$0	$1,575,433

Table 9 - Total Cost of Growth Summary over 10 Years

07 Proposed Levels of Service



Proposed Levels of Service forecasts the projected service levels the Town will deliver through its assets using a financial strategy in alignment with O.Reg. 588/17. The Proposed Levels of Service forms the basis for 10-year forecasting, annual budget recommendations, risk management, and performance monitoring. It incorporates information from all previous sections of the asset management plans.

Key takeaways:

- What is the proposed level of service based on a holistic view of the combined factors (cost, level of service, risk)?
- How is the proposed level of service achieved?
- What is the proposed level of service performance forecast?
- What is the financial summary of the proposed level of service?

Proposed Levels of Service

Concluding the Asset Management Plans in accordance with O.Reg. 588/17, Proposed Levels of Service can be summarized based on financial analysis and the information contained throughout the plans.

Levels of Service Achieved Through Capital Renewals and Replacements

The Proposed Levels of Service Scenario including its funding and asset conditions are the Town's selected plan for funding renewals and replacement. It considers risk associated with aging assets against the Town's goals of sustainably providing quality asset-related services at a level that is affordable and appropriate for the community.

Level of Service Option	Rationale	Funding Achieved Over 10 Years	Funding Gap
Scenario 1 Current Budget	Current Budget reflects that the Town currently provides strong levels of funding for maintaining its assets, but what was sufficient for historical levels of renewal will not be appropriate going forward as assets continue to age. The decrease in service levels over 10 years are not a rate that is sustainable or appropriate for the community and would reflect an increase in risk.	$37.20 M	($66.09 M)
Scenario 2 Needs Based Budget	Needs Based expands on Scenario 1 by showing the financial needs associated with maintaining an aging asset portfolio. This shows that the true cost of maintaining the Town's assets is more costly than what the Town currently provides. When combined with a risk-based approach, this was used to inform Scenario #3 Proposed Levels of Service.	$103.29 M	N/A
Scenario 3 Proposed Levels of Service	Proposed Levels of Service aligns with the Town's overarching financial strategy, balancing levels of service, risk, and affordability. It shows some potential decrease in service levels in the short term at a rate that is acceptable when balanced against affordability concerns and risk assessments. The Fiscal Strategy and Reserve Fund Review demonstrates that service levels can be achieved over a longer term. The financial strategies include rate-supported financial plans, increased tax-supported contributions to asset management funds, reserve management and investments, assessment growth, use of provincial and federal grants, interfund-borrowing, annual budgeting, and where allowable a role for external debt funding of capital projects.	$68.39 M	($34.39 M)

Table 10 - Levels of Service Options Funding Gap

Levels of Service Achieved Through Operations and Maintenance

The Town is not proposing any material changes or enhancements to the lifecycle activities and operational service levels. This is because:

- In accordance with the Municipal Act and Town municipal funding practices, the operating budget is considered a sustainable source of funding operations and maintenance through rate and tax-supported annual budgets.
- The current service levels are affordable and appropriate as they are already experienced by the community.
- Maintaining current service levels allows the Town to acquire asset expansions associated with population growth using assessment growth, without further financial impacts. This is part of the Town's Fiscal Strategy.
- The assessed risk of the condition of the assets based on the funding of renewals is within the Town's operational capacity to mitigate potential risks.

Cost of Current Levels of Service	Proposed Levels of Service	Shortfall
$8,673,363	No Change	$0

Table 11 - Proposed Levels of Service O&M Funding Shortfall

Levels of Service Maintained With Growth

The expected growth in population demonstrates the need to expand and intensify assets used to maintain service levels. The forecasts of asset growth show increases to the asset portfolio in line with population increases. The Town funds the acquisition, operations and future replacement of growth assets to maintain strong services to the community. These cost estimates do not include the human resources of delivering growth assets.

Value of Assets to Support Proposed Levels of Service through Growth	Value of Developer Delivered Assets	Value of Town Delivered Assets	Shortfall
$27,225,033	$696,716	$26,528,317	$0

Table 12 - Growth Capital Funding Shortfall

Once assets are operational, it was shown there is a new operating cost to maintain them. To achieve the Proposed Level of Service for new assets as well as existing assets, the Town incorporates growth principles into its budget process by reserving the use of assessment growth to fund the operations of new assets. This ensures that growth in population, growth in assets, assessment growth, and service levels achieve parity as intended by the Development Charges Act. The operational financial impacts of each growth project will be refined through the budget process.

Total Operating Impact of Growth for Proposed Levels of Service	Forecasted Operating Budget Allocated Through Assessment Growth	Shortfall
$956,682	$956,682	$0

Table 13 - Growth O&M Funding Shortfall

Service Risk

After considering the trade-offs between service levels and affordability, risk was considered to confirm service levels are appropriate. Risks were identified and mitigated to levels that are appropriate for the community and the Town's operations and maintenance program. Risks associated with the Proposed Levels of Service are:

Service Risk	Mitigation Measures	Residual Risk
Programming Impacts Arising from Increased Repairs.	Preventive maintenance programs. Inspections. Spare Parts. Schedule closures during major repairs. Coordination with departments and user groups.	Scheduled closures could be more often or longer in duration.
Well-Running Facilities May Start To Look Dated.	Maintain cleaning schedules. Branding and other methods of aesthetic appeal.	Perception may change as facilities age.
Maintaining Legacy Equipment.	Maintenance plans. Spare parts strategy.	Repairs on legacy assets may be temporary and require full replacements.
Increased energy use associated with aging or deficient assets, efficiency challenges.	Conservation and demand management planning. Monitoring and reporting. Building automation systems. Maintenance, retrofits, upgrades.	Minor efficiency losses until capital projects are completed.
Coordinating modernization with asset replacements.	Develop plans for accessibility, inclusivity, resilience, etc. Prioritizations and capital planning.	Financial forecast may change with capital plans to accommodate changing demand for facility assets.

Table 14 - Service Risk and Mitigation Measures

Proposed Levels of Service Performance

Proposed Levels of Service have been considered across the asset lifecycle, financially costed, and analyzed for risk. To quantify service levels, the performance measures identified by Managed Service Delivery can be projected out to 2034. These service levels will be monitored and reviewed annually. The Town's proposed levels of service measures are:

Measure	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Percentage of all existing assets not due for replacement	87%	85%	84%	81%	82%	80%	78%	80%	81%	80%
Percentage of Facilities Service Areas not due for Replacement										
Recreation, Community and Cultural Facility Assets	86%	85%	81%	78%	79%	78%	77%	80%	80%	80%
Administration, Operations, and Leased Facility Assets	91%	86%	89%	86%	87%	84%	80%	79%	85%	80%
Fire Facility Assets (Town-owned only)	93%	87%	92%	98%	100%	84%	83%	81%	84%	84%
Total Number of Drop-In Program Participants										N/A
Total Number of Registered Program Participants										N/A
Utilization of Ice Pads as a Percentage of Prime Time Hours										N/A
Booking of Available Multi-Use Spaces as a Percentage of Available Hours*										N/A

Table 15 - Proposed Levels of Service Performance

N/A - Not Applicable

Financial Summary

Throughout the Proposed Levels of Service process, the Town defined several financial strategies to achieve its proposed levels of service. These included:

- Increasing asset renewal funding through a wide range of reserve management methods focused on larger contributions, balancing risk and affordability.
- Planning asset growth in-line with population growth, and including development charges and assessment growth as part of asset financial planning.
- Maintaining operations and maintenance funding at current levels to support consistent annual lifecycle activities.
- Integrating asset management planning with the annual budget process so initial estimates and recommendations can be refined to incorporate detailed designs, capital delivery capacity, and operations and maintenance impacts of changes in assets.

When each analysis is combined, the total cost of the asset lifecycle over the next 10 years can be summarized as follows:

Financial Impact by Year	Existing Assets			Growth Assets		
	Base Operating Costs	Proposed Replacement Capital Spending	Cumulative Capital Shortfall	One-Time Capital for Growth	Annual Operating Impacts of Growth	Annual Reserve Contributions for Growth
2025	$8,673,364	$5,288,841	($18,363,786)	$696,716	$65,317	$42,245
2026	$8,673,364	$5,607,859	($23,665,606)	$17,356,248	$675,212	$436,705
2027	$8,673,364	$5,948,578	($27,224,650)	$386,506	$688,794	$445,489
2028	$8,673,364	$6,285,224	($32,992,863)	$7,623,506	$956,682	$618,751
2029	$8,673,364	$6,631,777	($30,312,042)	$0	$956,682	$618,751
2030	$8,673,364	$6,964,578	($35,656,988)	$0	$956,682	$618,751
2031	$8,673,364	$7,362,532	($40,380,765)	$0	$956,682	$618,751
2032	$8,673,364	$7,717,047	($36,383,356)	$0	$956,682	$618,751
2033	$8,673,364	$8,093,293	($32,231,949)	$0	$956,682	$618,751
2034	$8,673,364	$8,486,592	($34,907,523)	$0	$956,682	$618,751

Table 16 - Total Cost of Asset Lifecycle over 10 Years

Managing Shortfalls

It is understood that an infrastructure funding gap is common among municipalities. Studies have shown Canadian municipalities carry a disproportionate burden for infrastructure investments, relative to the municipal share of all governmental funding seen in Canada. Based on Statistics Canada benchmarking, the Town is in a better than average position for its infrastructure assets. The Town is committed to optimizing the use of limited funds to provide strong services to the community while continuing to seek additional funding.Each stream of service delivery was considered for funding impacts. There were funding shortfalls that could not be addressed, resulting in the Town's proposed levels of service:

Service Delivery	Total Shortfall Over 10 Years
Capital	($34,907,523)
Operating	$0
Growth	$0

Table 17 - Proposed Levels of Service Funding Shortfall Summary

Based on the Town's Proposed Levels of Service, the Town will move forward with the adopted financial strategy conceding the shortfall and the associated trade-offs. The Town will continue to seek additional funding opportunities identified in the Fiscal Strategy and will monitor performance for future updates.

08 Conclusion

Newmarket's asset management planning process advances the Town's objectives for financial sustainability, and demonstrates a commitment to Town values of being Well Beyond the Ordinary. Asset management is a continuous improvement process. Through iterations of development and implementation, new asset management capabilities can develop and others can improve.

The Asset Management Plans is a significant milestone, and part of a broader implementation of asset management capabilities by the Corporate Asset Management Office and Town business units. The Town will review and update asset management plans every five (5) years. Plans will be approved and endorsed by Town Council.

Asset management is not a document or a software. It is a way of doing business every day, and a lifelong journey to improve the Town. Through this journey, the Town can truly become Well Beyond the Ordinary.